This is a digital copy of a book that was preserved for generations on library shelves before it was carefully scanned by Google as part of a project to make the world's books discoverable online.

It has survived long enough for the copyright to expire and the book to enter the public domain. A public domain book is one that was never subject to copyright or whose legal copyright term has expired. Whether a book is in the public domain may vary country to country. Public domain books are our gateways to the past, representing a wealth of history, culture and knowledge that's often difficult to discover.

Marks, notations and other marginalia present in the original volume will appear in this file - a reminder of this book's long journey from the publisher to a library and finally to you.

Usage guidelines

Google is proud to partner with libraries to digitize public domain materials and make them widely accessible. Public domain books belong to the public and we are merely their custodians. Nevertheless, this work is expensive, so in order to keep providing this resource, we have taken steps to prevent abuse by commercial parties, including placing technical restrictions on automated querying.

We also ask that you:

+ *Make non-commercial use of the files* We designed Google Book Search for use by individuals, and we request that you use these files for personal, non-commercial purposes.

+ *Refrain from automated querying* Do not send automated queries of any sort to Google's system: If you are conducting research on machine translation, optical character recognition or other areas where access to a large amount of text is helpful, please contact us. We encourage the use of public domain materials for these purposes and may be able to help.

+ *Maintain attribution* The Google "watermark" you see on each file is essential for informing people about this project and helping them find additional materials through Google Book Search. Please do not remove it.

+ *Keep it legal* Whatever your use, remember that you are responsible for ensuring that what you are doing is legal. Do not assume that just because we believe a book is in the public domain for users in the United States, that the work is also in the public domain for users in other countries. Whether a book is still in copyright varies from country to country, and we can't offer guidance on whether any specific use of any specific book is allowed. Please do not assume that a book's appearance in Google Book Search means it can be used in any manner anywhere in the world. Copyright infringement liability can be quite severe.

About Google Book Search

Google's mission is to organize the world's information and to make it universally accessible and useful. Google Book Search helps readers discover the world's books while helping authors and publishers reach new audiences. You can search through the full text of this book on the web at `http://books.google.com/`

Tappan Presbyterian
Association

Tappan Presbyterian Association
LIBRARY.

Presented by Dr. Chas Deems
New York.
4073 July, 1892

CHRISTIAN THOUGHT.

LECTURES ON

PHILOSOPHY,
CHRISTIAN EVIDENCE,
BIBLICAL ELUCIDATION.

FIRST SERIES.

EDITED BY

CHARLES F. DEEMS, LL.D.,

PRESIDENT OF THE AMERICAN INSTITUTE OF CHRISTIAN PHILOSOPHY.

NEW YORK:
WILBUR B. KETCHAM,
71 BIBLE HOUSE.

Copyright
BY CHARLES F. DEEMS,
1886.

Gift
Tappan Presb, Assoc
3-21-1933

CONTENTS.

PAGE.

The Cry of "Conflict," - - - - - - - 1
By CHARLES F. DEEMS, LL.D.

The Foundation of Christian Belief, - - - - - 25
By LYMAN ABBOTT, D.D.

What We Mean by Christian Philosophy, - - - - - 33
By President NOAH PORTER.

Freedom of Will, Empirically Considered, - - - - 49
By President JOHN BASCOM.

The Spencerian Philosophy, - - - - - - 65
By Mr. S. H. WILDER.

Spontaneous Regeneration, - - - - - - 94
By CHARLES F. DEEMS, LL.D.

A Year's Work in Our Field, - - - - - - - 97
By the PRESIDENT OF THE INSTITUTE.

Certain Insignia of Organic Species, - - - - - 116
By E. F. BURR, D.D.

Summer Schools of the American Institute of Christian Philosophy, - 128

The Lands of the Bible, Ancient and Modern, - - - - 129
By HORMUZD RASSAM, London.

Remarks on Mr. Rassam's Paper, - - - - - - 156
By Rev. Dr. HOWARD CROSBY and Professor FRANCIS BROWN.

Design in the Elementary Structure of the Universe, - - 161
By the late Professor B. N. MARTIN.

The Ego in Consciousness, - - - - - - - 185
By Rev. Dr. L. D. BEVAN, London.

Paul's Treatment of the Theistic Question, - - - 191
By Rt. Rev. Bishop COTTERILL, Edinburgh.

Darwin, Emerson, and the Gospel, - - - - - - 191
By Rev. Dr. J. B. THOMAS.

Supernatural Morality; Some Considerations of Herbert Spencer's "Data of Ethics," - - - - - - - - 225
By W. H. PLATT, D.D., LL.D.

Beauty, - - - - - - - - - 321
By A. P. PEABODY, LL.D., Harvard University.

The Philosophy of Belief *Versus* Drifting, - - - 339
By Professor R. B. WELCH,

Leading Theories of Inspiration, - - - - - - 353
By ISAAC ERRETT, D.D.

Letter from Mr. Hormuzd Rassam, - - - - - 381

Natural Christianity, - - - - - - - - 385
By President HENRY DARLING, D.D., LL.D.

Some Questions concerning Heredity, Environment and Religion, 404
By Rev. A. H. BRADFORD.

THE CRY OF "CONFLICT."

[A Lecture delivered before the Summer School of Christian Philosophy, 12th July, 1881.]

BY CHARLES F. DEEMS, D.D., LL.D.,
Pastor of the Church of the Strangers, New York.

THE symbol of faith repeated throughout Christendom probably by more people than any other, and repeated oftener, is what is commonly known as "The Apostles' Creed." It opens with this solemn assertion: "I believe in God the Father Almighty, Maker of heaven and of earth." It is a declaration of the intimacy of religion and science. All true religion is based on the faith which a man has in the existence of God and prompts him to conform his whole outer and inner life to the relationship which exists between himself and God as the Father of the spirits of all flesh. All science deals with facts; that is, with things that are *made*. No man, then, who intelligently and heartily believes the first sentence of the Apostles' Creed can for a moment yield to the suggestion that there is anything in religion to discourage the most earnest pursuit of the knowledge of facts and their laws. Nor can any man who has the true scientific spirit ever study facts and the laws by which facts exhibit themselves in phenomena, for the purpose of denying the existence of the Author of facts, or for the purpose of bringing disloyalty into the hearts of any of His children. Moreover, it should be apparent to any candid mind that the belief that He who is the man's Almighty Father is the Maker of all things of which he has cognizance by the senses, must stimulate that student in his researches into nature. The history of science confirms this. The men who have laid the foundations and built up the structure of science in modern times have never been atheists, but have all been believers in God the Father Almighty.

Those of us who have been engaged in projecting and fostering this course of lectures have perceived that there are uninstructed persons, many of them among the young, who are deceived by an artful device of men who hate religion—the device of making them believe that there is antagonism of religion to science or of science to religion—assuming all the while that, there being such conflict, science is always right and religion therefore always wrong; and, moreover, that science consists of their crude guesses, their illogical inferences from their insufficient observations of phenomena.

The cry of the "Conflict of Religion and Science" is recent and fallacious. It is mischievous to the interests of both science and religion; and would be most mournful if we did not believe that, in the very nature of things, it must be ephemeral. Its genesis is to be traced to the weakness of some professors of religion, and to the wickedness of a few shallow professors of science. No man of powerful and healthy mind, who is devout, ever has the slightest apprehension that any advancement of science can shake the foundations of that faith which is necessary to salvation. No man of powerful and healthy mind, engaged in observing, recording, and classifying facts, and in searching among them for those identities and differences which point to principles and indicate laws, ever feels that he suffers any embarrassment or limitations in his studies by the most reverent love he can have for God as his Father, or the most tender sympathy he can have for man as his brother, or that hatred for sin which produces penitence, or that constant leaning of his heart on God which produces spiritual-mindedness, or that hope of a state of immortal holiness which has been the ideal of humanity in all ages.

All this dust about "the conflict" has been flung up by men of insufficient faith, who doubted the basis of their faith; or by men of insufficient science, who have mistaken theology or "the Church" for religion; or by unreasonable and wicked men, who have sought to pervert the teachings of science so as to silence the voice of conscience in themselves, or put God out of their thoughts, so that a sense of His eternal recognition of the eternal difference between right and wrong might not overawe their spirits in the indulgence of the lust of the flesh, the lust of the eye, and the pride of life. It may be profitable to discriminate these; and if badges and flags have become mixed in this fray, it may be well to readjust our ensigns, so that foes shall strike at only foes.

It is, first of all, necessary to settle distinctly what science is, as well as what it is not; and, also, what religion is, as well as what it is not.

We can all afford to agree upon the definition rendered by the only man who has been found in twenty-two centuries to add anything important to the imperial science of logic. Sir William Hamilton defines science as "a complement of cognitions, having in point of form the character of logical perfection, and in point of matter the character of real truth." Under the focal heat of a definition like this, much that claims to be science will be consumed. It is the fashion to intimate, if not to assert, that it is much more easy to become scientific than to become religious; that in one case a man is dealing with the real, in the other with the ideal; in the one case with the comprehensible, in the other with the incomprehensible; in the one case with that which is certain and exact, and in the other case with that which at best is only probable and indefinite.

There can be no doubt, among thoughtful men, of the great value of both science and religion. A thinker who is worth listening to is always misunderstood if it be supposed that he means to disparage either. An attempt to determine the limits of religion is no disparagement thereof, because all the most religious men who are accustomed to think are engaged in striving to settle those limits, in order that they may have advantage of the whole territory of religion on the one hand, and on the other may not take that as belonging to religion which belongs to something else.

Now, if Sir William Hamilton's definition is to be taken, we shall perceive that he represents science in its quality, in its quantity, and in its form. Cognition of something is necessary for science. Then (1) the knowledge of things known must be true; (2) that knowledge must be full, and (3) it must be accurate; it must be in such form as to be most readily and successfully used by the logical understanding for purposes of thought.

This sets aside very much that has been called science, and, as it seems, perhaps nearly all that which has been the material used by those who have raised the most smoke over this "conflict" question.

"Guesses at truth" are valuable only as the pecking at a plastered wall, to find where a wooden beam runs, is useful; but a guess is not knowledge. A working hypothesis would not be to be despised, although the student of science might feel quite sure in advance that when he had learned the truth in this department he would throw the hypothesis away. A working hypothesis, like a scaffold, is useful; but a scaffold is not a wall. Art is not science. Art deals with the appearances, science with the realities, of things. Art deals with the external, science with the internal, of a thing; art with the phenomenon, science with the *noumenon*. It must be the "*real* truth" which we know, and know truly.

Weak men on both sides have done much harm—the weak religionists by assuming, and the weak scientists by claiming, for guesses and hypotheses the high character and full value of real truth. The guesses of both have collided in the air, and a real battle seemed impending; but it was only "guesses" which exploded—bubbles, not bombs; and it is never to be forgotten that a professor of religion has just as much right to guess as a professor of science, and the latter no more right nor skill than the former, although he has had more practice.

No man can abandon a real truth without degradation to his intellectual and moral nature; but Galileo, Kepler, and Newton, in their studies from time to time, employed and discarded theory after theory, until they reached that which was capable of demonstration. It was that, and that only, which took its place as science. In the case of Kepler, it is known what great labor he spent in attempting to represent the orbit of Mars by combinations of uniform circular motion. His working hypothesis was the old doctrine of epicyclic curves. But his great labor was not fruitless, as has been carelessly asserted. The theory was false, and therefore not a part of real science; but, working on it, he discovered that the orbit of Mars is an ellipse, and this led him to the first of his three great laws of planetary motion, and enabled him almost immediately to discover the second. Here was a great intellect employing as a working hypothesis a theory which has always been false, and now is demonstrably false. It was not science.

Now if, while scientific men are employing working hypotheses merely as such, men representing religion fly at them as if they were holding those hypotheses as science, or if men representing science do set forth these hypotheses as if they were real knowledge of truth, and proceed to defend them as such, then much harm is done in all directions.

In the first instance, the religious man shows an impatience which is irreligious. "He that believeth doth not make haste." It is unfair to criticise any man while he is doing. Let him do what he will do; then criticise *the deed.* The artist has laid one pigment on his palette, and he is criticised before it is known what others he intends to mix with it, to procure what shade, to produce what effect. Wait until all the paint is on the canvas, and the artist has washed his brushes and drawn the curtain from his picture; then criticise *the picture.*

This impatient and weak criticism on the part of religious men is injurious to scientific progress, as well as to the progress of religion. For the latter it makes the reputation of unfairness; for the former it does one of two bad things: it obstructs free discussion among students of science, or pushes them into a foolish defiance of religion. Men must co-work with those of their own sphere of intellectual labors. They must publish guesses, conjectures, hypotheses, theories. Whatever comes into any mind must be examined by many minds. It may be true, it may be false; there must be no prejudgment. Now if, because our scientific men are discussing a new view, our religious men fly among them and disturb them by crying "heresy," "infidelity," "atheism," those students must take time to repel the charges, and thus their work be hurt. If let alone, they may soon abandon their false theory. Certainly, if a proposition in science be false, the students of science are the men likeliest to detect the falsehood, however unlikely they may be to discover the truth that is in religion. Nothing more quickly destroys an error than to attempt to establish it scientifically.

The premature cries of the religious against the scientific have also the effect of keeping a scientific error longer alive. Through sheer obstinacy, the assailed will often hold a bad position, which, if not attacked, had been long ago abandoned. And we must have noticed that nature seems quite as able to make scientific men obstinate as grace to do this same work for the saints!

No man should be charged with being an atheist who does not, in distinct terms, announce himself to be such; and in that case the world will believe him to be so pitiful a person as to be compassionated, not assailed with hard words. But as you may drive a man away from you by representing him as your enemy, so a man inclined to science may be driven from the Christian faith if convinced that the Christian faith stands in the way of free investigation and free discussion; or he may hold on to the faith because he has brains enough to see that one may become most highly scientific and most humbly devout at the same time; but by persecution he may be compelled to withdraw from open communion with "those who profess and call themselves Christians." Then both parties lose —what neither can well afford to lose—the respect and help which each could give the other. When the son of a religious teacher turns to the works of a man whom he has heard that father denounce, and finds in any one page of those books more high religious thought than in a hundred of his father's commonplace discourses, a sad state of feeling is produced, and many mistakes are likely to follow.

Sir William Hamilton's definition of science has for *genus* "a complement of cognitions," and for *differentia* "logical perfection of form" and "real truth of matter." The definition is a demand for a certain fulness. We can only conjecture, in the case of any particular science, how much knowledge such a man as Sir William Hamilton would regard as a "complement."

But students of science do well to remind themselves that it is impossible to exceed, and very difficult to succeed, and the easiest thing imaginable to fall short. In other words, we have never been able to collect more material of knowledge than the plan of any temple of science could *work in*, and really did not demand for the completion of the structure, and that very few temples of science have been finished, even in the outline; while all the plain of thought is covered with ruins of buildings begun by thinkers, but unfinished for want of more knowledge. Even where there has been gathered a sufficient amount of knowledge to be wrought by the logical understanding into the form of a science, so that such a mind as Hamilton's would admit it as a science—*i.e.*, a sufficient complement of cognitions of truths put in logical form—another age of labor, in other departments, would so shrink this science that, in order to hold its rank, it would have to *work in* the matter of more knowledge; and, to preserve its symmetry, be compelled to readjust its architectural outlines. In other words, what is science to one age may not be science to its successor, because that successor may perceive that, although its matter had the character of real truth, and its form the character of logical perfection, *as far as it went*, nevertheless there were not enough cognitions; not enough, just because in the later age it was possible to obtain additional cognitions, which could not have been obtained earlier.

And, in point of fact, has not this been the history of each of the acknowledged sciences? And can any significance be assigned to Sir William Hamilton's definition without taking the word "complement" to mean *all the cognitions possible at the time?* Now, unless at one time men have more cognitions of any subject than at another time, one of two things must be true: either (1) no new phenomena will appear in that department, or (2) no abler observer will arise. But the history of the human mind in the past renders both suppositions highly improbable. If no new phenomena appear we shall have observers abler than have existed, because, although it were granted that no fresh accessions of intellectual power came to the race, each new generation of observers would have increased ability, because each would have the aid of the instruments and methods of all predecessors. When we go back to consider the immense labor performed by Kepler in his investigations which led to his brilliant discoveries, we feel that if his nerves had given way under his labors, his domestic troubles, and his financial cares, or his industy had been just a little less tenacious, he would have failed in the prodigious calculations which led him to his brilliant discoveries, and gave science such a great propulsion. Just five years after the publication of Kepler's "New Astronomy" the Laird of Merchiston published, in Scotland, his "Mirifici Logarithmorum Canonis Descriptio." If Kepler had only had Napier's logarithms! But succeeding students have enjoyed this wonderful instrumental aid, and done great mental work with less draught on their vital energies.

The very facts, then, which make us proud of modern science should make scientific men very humble. It will be noticed that the most arrogant cultivators of science are those who are most ready to assail such religious men as are rigid, and hold that nothing can be added to or taken away from theology; and such scientific men make this assault on the assumption that physical sciences are fixed, certain, and exact. How ridiculous they make themselves, a review of the history of any science for the last fifty years would show. Is there any department of physical science in which a text-book used a quarter of a century ago would now be put into the hands of any student? The fact is that any man who is careful of his reputation has some trepidation in issuing a volume on science, lest the day his publishers announce his book the morning papers announce, also, a discovery which knocks the bottom out of all his arguments. This shows the great intellectual activity of the age—a matter to rejoice in, but a matter which should also promote humility and repress egotism in all well-ordered minds. There is, probably, no one thing known in its properties and accidents, in its relations to all abstract truths and concrete existence. No one thing is exactly and thoroughly known by any man, or by all men. Mr. Herbert Spencer well says: "Much of what we call science is not exact, and some of it, as physiology, can never become exact." (Recent Discussions, p. 158.) He might have made the remark with greater width and no less truth, since every day accumulates proof that that department of our knowledge which we call the exact sciences holds an increasingly small proportion to the whole domain of science.

There is one important truth which seems often ignored, and which should frequently be brought to our attention, viz.: that the propositions which embody our science are statements not of absolute truths, but of probabilities. Probabilities differ. There is that which is merely probable, and that which is more probable, and that which is still much more probable, and that which is so probable that our faculties cannot distinguish between this probability and absolute certainty; and so we act on it as if it were certain. But it is still only a "probability," and not a "certainty." It seems as though it would forever be impossible for us to determine how near a probability can approach a certainty without becoming identical with that certainty.

Is not all life a discipline of determining probabilities? It would seem that God intends that generally the certainties shall be known only to Himself. He has probably shown us a very few certainties, more for the purpose of furnishing the idea than for any practical purpose, as absolute certainty is necessary for Him, while probabilities are sufficient for us. All science is purely a classification of probabilities.

We do not *know* that the same result will follow the same act in its several repetitions, but *believe* that it will; and we believe it so firmly that if a professor had performed a successful experiment before a class of chemistry, he would not hesitate to repeat the experiment after a lapse of a quarter of a century. Scientific men are not infidels. Of no men may it be more truly said that they "walk by faith." They do not creep, they march. Their tread is on made ground, on probabilities; but they believe they shall be supported, and according to their faith so is it done unto them.

And no men better know than truly scientific men that this probability can never become certainty. In the wildest dreams of fanaticism—and there are fanatics in the laboratory, as there are in the sanctuary of God and in the temple of Mammon—it has never been believed that there shall come a man who shall know all things that are, all things that have been, all things that shall be, and all things that can be, in their properties, their attributes, and their relations. Until such a man shall arise, science must always be concerned with the cognition of that which is the real truth as to probabilities, or with probable cognitions of that which is not only real truth, but absolute truth. A scientific writer, then, when he states that any proposition has been "proved" or anything "shown," means that it has been proved probable to some minds, or shown to some—perhaps to all—intelligent persons as probable. If he have sense and modesty, he can mean no more, although he does not cumber his pages or his speech with the constant repetition of that which is to be presumed, even as a Christian in making his appointments does not always say *Deo volente*, because it is understood that a Christian is a man always seeking to do what he thinks to be the will of God, in submission to the providence of God.

A scientific man ridicules the idea of any religious man claiming to be "orthodox." It must be admitted to be ridiculous, just as ridiculous as the claim of a scientific man to absolute certainty and unchangeableness for science. The more truly religious a man is, the more humble he is; the more he sees the deep things of God, the more he sees the shallow things of himself. He claims nothing positively. He certainly does not make that most arrogant of all claims, the claim to the prerogative of infinite intelligence. There can exist only one Being in the universe who is positively and absolutely orthodox, and that is God. In religion, as in science, we walk by faith; that is, we believe in the probabilities sufficiently to act upon them.

So far from any conflict being between science and religion, their bases are the same, their modes are similar, and their ends are identical, viz.: what all life seems to be; that is, a discipline of faith.

It is not proper to despise knowledge, however gained: whether from the exercise of the logical understanding, or from consciousness, or from faith; and these are the three sources of our knowledge. That which has been most undervalued is the chief of the three; that is, faith.

We *believe* before we acquire the habit of studying and analyzing our consciousnesses. We *believe* before we learn how to conduct the processes of our logical understanding.

We can have much knowledge by our faith without notice of our consciousness, and without exertion of our reasoning faculties; but we can have no knowledge without faith. We can learn nothing from our examination of any consciousness without faith in some principle of observation, comparison, and memory. We can acquire no knowledge by our logical understanding without faith in the laws of mental operations.

This last statement, if true, places all science on the same basis with religion. Although so familiar to many minds, we may take time to show that it is true.

For proof let us go to a science which is supposed to demonstrate all its propositions, and examine a student in geometry. We will not call him out on the immortal 47 : I of Euclid. We can learn all we need from a bright boy who has been studying Euclid a week. The following may represent our colloquy:

Q. "Do you know how many right angles may be made by one straight line upon one side of another straight line?"

A. "Yes; two, and only two. Innumerable angles may be made by two straight lines so meeting, but the sum of all the possible angles will be two right angles."

Q. "You say you know that. How do you know that you know it?"

A. "Because I can prove it. A man knows every proposition which he can demonstrate."

Q. "Please prove it to me."

The student draws the well-known diagrams. If he follows Euclid, he begins with an argument like this:

A. "There are obviously two angles made when a straight line stands on another straight line."

Q. "My eyes show me that."

A. "Well, then, those angles are either two right angles or, together, are equal to two right angles. And I prove that in this way: If the two angles made by the lines be equal, each is a right angle according to the definition of a right angle, which may be stated thus: A right angle is one of the two angles made by a straight line on one side of another straight line when both angles are equal. If each is a right angle, and there are only two, because they have taken all the space on that side of the line, it is proved that two right angles are made by two lines in the relation supposed, and only two."

But if each be not a right angle, our young friend proceeds, by the well-known demonstration of Euclid, to show that the sum of the two angles is equal to two right angles; and when he has finished and reached the Q. E. D., he and his examiners *know* that this proposition is true, because he has proved it. But when we examine his argument we find that he has made three unproved assumptions, namely: (1) that a thing cannot at the same time *be* and *not be;* (2) that if equals be added to equals the wholes are equal; and (3) that things which are equal to the same are equal to one another. It so happens that each of these propositions which he has assumed to be true is, if true, much more important than the proposition which he has proved. Let us point out these three assumptions to our bright student, and then resume our catechism.

Q. "Could you possibly prove this proposition in geometry if any one of those three assumed propositions were not granted?"

A. "No."

Q. "Then, if we deny these assumptions, can you prove them?"

A. "No; but can you deny them?"

Q. "No, we cannot deny them, and cannot prove them; but we *believe* them, and therefore have granted them to you for argument, and know your proposition of the two right angles to be true, because you have proved it."

Now, here is the proposition which Euclid selected as the simplest of all demonstrable theorems of geometry, in the demonstration of which the logical understanding of a student cannot take the first step without the aid of faith.

From the student let us go to the master. We go to such a teacher as Euclid, and in the beginning he requires us to believe three propositions, without which there can be no geometry, but which have never been proved, and, in the nature of things, it would seem never could be proved—namely, that space is infinite in extent, that space is infinitely divisible, and that space is infinitely continuous. And we believe them, and use that faith as knowledge, and no more distrust it than we do the results of our logical understandings, and are obliged to admit that geometry lays its broad foundations on our faith.

Now, geometry is the science which treats of forms in their relations in space. The value of such a science for intellectual culture and practical life must be indescribably important, as might be shown in a million of instances. No form can exist without boundaries, no boundaries without lines, no line without points. The beginning of geometric knowledge, then, lies in knowing what a "point" is, the existence of forms depending, it is said, upon the motion of points. The first utterance of geometry, therefore, must be a definition of a point. And here it is: "A point is that which has no parts, or which has no magnitude." At the threshold of this science we meet with a mystery. "A point is"—then it has existence—"is" what? In fact, in form, in substance, it is nothing. A logical definition requires that the *genus* and *differentia* shall be given. What is the *genus* of a "point"? Position, of course. Its *differentia* is plainly seen. It is distinguished from everything else in this, that everything else is *something somewhere*, and a point is *nothing somewhere;* everything HAS *some* characteristic, a point has *none*. A point is either visible or invisible. Is it visible? Then we can see that which is without parts or magnitude. What is it we see when we do not see any part, do not see any magnitude? Is it substantial or ideal? If substantial, how do we detect its substantial existence? If ideal, how can an idea have motion, and by simple motion become a substantial existence? Are we not reduced to this? Ideals produce substantials, or invisible substantials, upon motion, produce visible substantials; or that which is necessary to matter—namely, form—owes its existence to that which is neither substantial nor ideal—to nothing, in fact. The entire and sublime science of geometry, at one time the only instrument of culture among the Greeks, and so esteemed by Plato that he is said to have written over his door, "Let no one enter here who does not know geometry," in all its conceptions, propositions, and demonstrations, rests upon the conception of that which has no parts, no magnitude. The old saw of the schoolmen was, "Ex nihilo nihil fit." If each visible solid owes its form to superficies, and each superficies its form to lines, and each line its form to a point—and a point has no form, because it has no parts—then who shall stone the man who cries out, "Ex nihilo geometria fit"?

But lay the first three definitions of geometry side by side: 1. "A point is that which has no parts, or which has no magnitude." 2. "A line is length without breadth." 3. "The extremities of a line are points." Study these, and you will probably get the following results: That which has no parts produces all the parts of that which occupies space without occupying space, and which, although it occupies no space, has extremities, to the existence of which it owes its own existence; and those extremities determine the existence of that which has parts made up by multiplications of its extremities which have no parts. Now, you must know at least that much, or else you must stay out of Plato's house.

This useful science, without which men could not measure their little plantations, or construct their little roads on earth, much less traverse and triangulate the ample fields of the skies, lays for its necessary foundation thirty-five definitions, three postulates, and twelve axioms, the last being propositions which no man has ever proved; and these fifty sentences contain as much that is incomprehensible, as much that must be granted without being proved, as much that must be believed, although it cannot be proved, as can be found in all the theological and religious writings from those of John Scotus Erigina down to those of Richard Watson, of England, or Charles Hodge, of Princeton.

Does any man charge that this is a mere logical juggle? Then he shall be called upon to point out wherein it differs from the methods of those who strive to show that there is a real conflict between real science and real religion. If any man shall charge me with being an infidel as touching geometry, and try to turn me out of the church of science, I shall become hotly indignant, because I know that Euclid did not believe more in geometry than I do, and I believe as much in the teachings of geometry as I do in the teachings of theology, regarding them both, as Aristotle did, as mere human sciences, ranking theology with psychology, geology, and botany. And being by profession, if not by attainments, a theologian, I certainly believe in theology.

And this brings us back to what was stated in the beginning as one of the causes of this cry of "conflict." It is the confounding of theology with religion. Theology is not religion any more than psychology is human life, or zoölogy is animal life, or botany is vegetable life. Theology is a human science; religion is a real life. Theology is objective; religion is subjective. Theology is the scientific classification of what is known of God; religion is a loving obedience to God's commandments. Every religious man must have some theology, but it does not follow that every theologian must have some religion. We never knew a religious man without some kind of a theology, nor can we conceive such a case. But we do know some theologians who have little religion, and some that seem to have none. There may be a conflict between theology and some other sciences, and religious men may deplore *that* conflict, or may not, according to their measure of faith. There are those whose faith is so large and strong that they do not deplore such a conflict, because they know that if, for instance, a conflict should come between geology and theology, and geology should be beaten, it will be so much the better for religion; and if geology should beat theology, still so much the better for religion: according to the spirit of the old Arabic adage, *If the pitcher fall on the stone, so much the worse for the pitcher; and if the stone fall on the pitcher, so much the worse for the pitcher.* Geologists, psychologists, and theologists must all ultimately promote the cause of religion, because they must confirm one another's truths, and explode one another's errors; and a religious man is a man whose soul longs for the truth, who loves truth because he loves God, who knows if the soul be sanctified it must be sanctified by the truth, even as the mind must be enlarged and strengthened by the truth. He knows and feels that it would be as irreligious in him to reject any truth found in nature as it would be for another to reject any truth found in the Bible.

But there is no necessary conflict between even theology and any other science. Theology has to deal with problems into which the element of the infinite enters. It will therefore have concepts some two of which will be irreconcilable, but not therefore contradictory. For instance, to say that God is "an infinite person" is to state the agreement of two concepts which the human mind is supposed never to have reconciled, and never to be able to reconcile. But they are not contradictory. If one should say that there is in the universe a circular triangle, we should deny it, not because the concept of a triangle is *irreconcilable* with the concept of a circle, as consistent in the same figure, which is quite true, but because they are *contradictory.* What is irreconcilable to you may be reconcilable to another mind, because "irreconcilable" indicates the relation of the concept to the individual intellect; but what is contradictory to the feeblest is contradictory to the mightiest mind, because "contradictory" represents the relation of the concepts to one another.

In the definition of a *person* there is nothing to exclude infinity, and in the definition of *infinite* there is nothing to exclude personality. There is no more exclusion between "person" and "infinite" than between "line" and "infinite;" and yet we talk of infinite lines, knowing the irreconcilability of the ideas, but never regarding them as contradictory.

Writers of great ability sometimes fall into this indiscrimination. For instance, a writer whom I greatly admire, Dr. Hill, former President of Harvard College, in one paragraph[1] seems twice to employ "contradictory" in an illogical sense, even when he is presenting an illustration which goes to show most clearly that in other sciences, as well as in theology, there are propositions which we cannot refuse to accept, because they are not contradictory, although they are irreconcilable; in other words, that there are irreconcilable concepts which are not contradictory, for we always reject one or the other of two contradictory concepts or propositions.

That is so striking an illustration of the mystery of the infinite that I will reproduce it. On a plane imagine a fixed line, pointing north and south. Intersect this at an angle of ninety degrees by another line, pointing east and west. Let this latter rotate at the point of intersection, and at the beginning be a foot long. At each approach of the rotating line toward the stationary line let the former double its length. Let each approach be made by bisecting the angle. At the first movement the angle would be forty-five degrees and the line two feet in length; at the second, the angle twenty-two and one-half degrees and the line four feet; at the third, the angle eleven and one-fourth degrees and the line eight feet; at the fourth, the angle five and five-eighths degrees and the line sixteen feet; at the fifth, the angle two and thirteen-sixteenths degrees and the line thirty-two feet, and so on. Now, as this bisecting of the angle can go on indefinitely before the rotating line can touch the stationary line at all its points, it follows that before such contact the rotating line will have a length which cannot be stated in figures, and which defies all human computation. It can be mathematically demonstrated that a line so rotating, and increasing its length in the inverse ratio of its angle with the meridian, will have its end always receding from the meridian and approaching a line parallel to the meridian at a distance of 1.5708. We can show that the rotating line can cross the stationary line by making it do so as on a watch-dial, and yet we can demonstrate that if it be extended indefinitely it can never touch the stationary line, nor come at the end even as near as eighteen inches to it.

---

[1] In an admirable article on "The Uses of Mathesis," in the *Bibliotheca Sacra* for July, 1875.

Here are two of the simplest human conceptions, between which we know that there is no contradiction, rendered absolutely irreconcilable to the human intellect by the introduction of the infinite. There is no religion here. And yet there is no mystery in either theology or religion more mysterious than the mystery of the infinite, which we may encounter whenever we attempt to set our watches to the right time if they have run more than an hour wrong.

Another error has been the occasion of this cry of "conflict." It is the confounding of "the Church" with "religion." This confusion has led many an honest soul astray, and is the fallacy wherewith shrewd sophists have been able to overthrow the faith of the ignorant. If the Church—and, in all my treatment of this topic, I must be understood as using "the Church" not as signifying "the holy Church universal," but simply in the sense in which antagonistic scientists employ it—if *the Church* and *religion* be the same, the whole argument must be given up, and it must be admitted that there is a conflict between religion and science, and that religion is in the wrong.

Churchmen are guilty of helping to strengthen, if indeed they are not responsible for creating, this error. It has at length been presented plumply to the world in the book of Professor John William Draper, entitled a "History of the Conflict between Religion and Science." The title assumes that there is such a conflict. See how it will read with synonyms substituted: "History of the Conflict between *Loving Obedience to God's Word* and *Intelligent Study of God's Works*." Does Dr. Draper believe there is such a conflict? It is not to be supposed that he does. How, then, did he come to give his book such a title? From a confusion of terms, as will be observed by the perusal of three successive sentences in his preface: "The *papacy* represents the ideas and aspirations of two-thirds of the population of Europe. It insists on a political supremacy, ... loudly declaring that it will accept no reconciliation with modern civilization. The antagonism we *thus* witness between *religion* and science," etc. Now, if "the papacy" and "religion" be synonymous terms, representing equivalent ideas, and if all the things which Dr. Draper asserts to be facts are facts,[1] Dr. Draper's book shows that all good men should do what they can to extirpate religion from the world; but if they are not—and learned and holy Roman Catholics may readily affirm that they are not—then the book is founded on a most hurtful fallacy, and must be widely mischievous. Their share of the responsibility for the harm done must fall to those Churchmen who have spoken without considering the end to which their unwise claims must logically drive them.

No, these are not synonymous terms. "The Church" is *not* religion, and religion is *not* "the Church." There may be a Church and no religion; there may be religion and no Church, as there may be an aqueduct without water, and there be water without an aqueduct. God makes water, and men make aqueducts. Water was before aqueducts, and religion before Churches. God makes religion, and men make Churches. There are irreligious men in every Church, and there are very religious men in no Church. Any visible, organized Church is a mere human institution. It is useful for the purpose of propagating religion so long as it confines itself to that function and abstains from all other things. The moment it transcends that limit, it is an injurious institution. In either case it is merely human, and we wrong both religion and the Church when we claim for the latter that it is not a human institution. The Church of England is as much a human institution as the Royal Society; and the same may be said of the Church of Rome and the Royal Florentine Academy. A Church is as much an authority in matters of religion as a society is in matters of science, and no more. "The Church" has often been opposed to science, and so it has to religion; but "the society" has often been opposed to religion, and so it has to science. "The Church," both before and since the days of Christ, has stood in opposition to the Bible, the text-book of Jewish and Christian religionists, quite as often as it has to science. But "the society," or "the academy," has stood in opposition to science quite as often as it has to religion. Sometimes the sin of one has been laid upon the other, and sometimes the property of one has been scheduled as the assets of the other. It is time to protest, in the interests of the truth of God, and in the name of the God of truth, that religion no longer be saddled with all the faults of the Churchmen, all the follies of the scientists, and all the crimes of the politicians. It was not religion which brought Galileo to his humiliating retraction, about which we hear so much declamation; it was "the Church."

---

[1] But no writer has appeared in the last half century whose statements are more reckless. It would be safe for every young reader to verify each statement made in the "History of the Conflict" before accepting it.

But why should writers of the history of science so frequently conceal the fact that "the Church" was instigated thereunto not by religious people, but scientific men—by Galileo's *collaborateurs?* It was the jealousy of the scientists which made use of the bigotry of the Churchmen to degrade a rival in science. They began their attacks not on the ground that religion was in danger, but on such scientific grounds as these. stated by a professor in the University of Padua—namely, that as there were only seven metals, and seven days in the week, and seven apertures in man's head, there could be only seven planets![1] And that was some time before these gentlemen of science had instigated the sarcastic Dominican monk to attempt to preach Galileo down under the text, "Viri Galilæi, quid statis adspicientes in cœlum?"[1]

---

[1] It is scarcely to be wondered that the churchmen should follow the lead of the scientific men, and attack the new system by showing that all the Scriptural

In like manner, politicians have used "the Church" to overthrow their rivals. "The Church" is the engine which has been turned against freedom, against science, against religion. It would be as logical and as fair to lay all "the Church's" outrages against human rights and intellectual advancement at the door of religion as it would be to lay all its outrages against religion at the door of science and government, because "the Church" has seldom slaughtered a holy martyr to the truth without employing some forms of both law and logic.

Science exists for the sake of religion, and because of religion. If there had been no love for God in the human race, there had been no study of the physical universe. The visible cosmos is God's love-letter to man, and religion seeks to probe every corner of the sheet on which such love is written, to examine every phrase and study every connection. A few upstarts of the present day, not the real men and masters of science, ignore the fact that almost every man who has made any great original contribution to science, since the revival of letters, was a very religious man; but their weak wickedness must not be charged to science any more than the wicked weakness of ecclesiastics to religion.

Copernicus (born 1473), who revolutionized astronomy, was one of the purest Christians who ever lived—a simple, laborious minister of religion, walking beneficently among the poor by day, and living among the stars by night; and yet one writer of our day has dared to say, in what he takes to be the interest of

---

types applicable to the case proved the existence of only seven planets, such as the seven-branched candlestick of the tabernacle, the seven candlesticks of the Apocalypse, and the seven churches of Asia. See *Delambre*.

[1] A poor pun on the name of Galileo. "Ye men of Galilee, why stand ye gazing up into heaven?" (Acts i. 11.) This sermon by Caccini was not altogether funny. Delambre represents the conclusion of it ferocious. (*Histoire de l'Astron.*, dis. prelim. p. xxii.) In regard to this matter of Galileo, President White well says: "The whole of the civilized world was at fault, Protestant as well as Catholic, and not any particular part of it. *It was not the fault of religion*, it was the fault of the short-sighted views which narrow-minded, loud-voiced men are ever prone to mix in with religion, and to insist is religion." (*Popular Science Monthly*, Feb. 1876, p. 399.)

science, that Copernicus was "aware that his doctrines were totally opposed to revealed truth." Was anything worse than this absurd slander of a great dead man ever perpetrated by theologian, or even ecclesiastic? Could *any* man believe in any doctrine which he *knew* was opposed to any truth, especially if he believed that God had revealed that truth? It were impossible, especially with a man having the splendid intellect and the pure heart of Copernicus, who died believing in his "De Orbium Cœlestium Revolutionibus,"and also in the Bible. And this is the touching inscription which that humble Christian ordered for his tomb: "Non parem Paulo veniam requiro, gratiam Petri neque posco; sed quam in crucis ligno dederis latroni, sedulus oro." [1]

Tycho Brahe (born 1546), who, although he did not produce a system which won acceptance, did, nevertheless, lay the foundation for practical astronomy, and build the stairs on which Kepler mounted to his grand discoveries, was a most religious man. He introduces into one of his scientific works ("Astronomiæ Instauratio Mechanica," p. A) this sentence: "No man can be made happy, and enjoy immortal life, but through the merits of Christ, the Redeemer, the Son of God, and by the study of his doctrines, and imitation of his example."

John Kepler (born 1571) was a man in whose life the only conflict between science and religion seemed to be as to which should yield the most assistance to the other. He wrought as under Luther's motto, "Orasse est studisse." He prayed before he worked, and shouted afterward—such shouts as this, which came when the orderly grandeur of the universe burst on him: "I am thinking the thoughts of God." [2] The more he bowed his soul in prayer, the higher his intellect rose in its discoveries; and as those discoveries thickened on his head, it bowed in humbler adoration. And so that single man was able to do more for science than all the irreligious scientists of the last three centuries have accomplished, while he bore an appalling load of suffering with a patience that was sublime, and, dying, left this epitaph for his tomb-stone: " In Christo pie obiit."

---

[1] "I ask not the favor accorded to Paul, nor demand the grace granted to Peter, but I pray earnestly for that which Thou didst give to the thief on the cross."

[2] In the same spirit Linnæus exclaimed, "Deum omnipotentem a tergo transeuntem et obstupui"—*I have beheld the back part of God Almighty as he passed, and have been astounded.* Possibly the passage at the conclusion of Exodus xxxiii. was in his mind.

Of Sir Isaac Newton's, and Michael Faraday's, and Sir William Hamilton's, and Sir James Y. Simpson's religious life, not to mention the whole cloud of witnesses, we need not tell what is known to all men. But the history of science shows that not the most gifted, not the most learned, not the most industrious, gain the loftiest vision, but that only the pure in heart see God. And all true science is a new sight of God.

Herbert Spencer says: "Science may be called an extension of the perceptions by means of reasoning" (Recent Discussions, p. 60). And we may add, Religion may be called an extension of the perceptions by means of faith. And having so said, have we not paraphrased Paul? "Faith is confidence in things hoped for, conviction of things not seen" (Heb. xi. 1). Science has the finite for its domain, religion the infinite; science deals with the things seen, and religion with the things not seen. When Dr. Hutton, of Edinburgh, announced, in the last century, " In the economy of the world I can find no traces of a beginning, no prospect of an end," it is said that scientific men were startled and religious men were shocked. Why should they be? The creation of the universe and its end are not questions of science, and can be known only as revealed to faith. And so Paul says: "Through faith we apprehend intellectually that the worlds have been framed by the word of God, so that that which is seen may have sprung from that which is not seen" (Heb. xi. 3).

But we must close.

While preparing this paper it has been my almost daily custom to pass the massive Masonic Temple in the city of New York. Before its portals stand two stately columns, known to the brethren of the Masonic Order as Jachin and Boaz. On each rests a globe. In going to my study in the morning I pass first the column which supports the celestial globe, and as I return to my home in the evening I pass first the column which supports the terrestrial globe. One day it came to me that here there stood, in solid symmetry and solemn resemblance, the symbols of these twins of God, who did not struggle in the infinite womb as Isaac's sons contended before they were born, and whose children should not fight on the fields of the finite as the descendants of Jacob and Esau have contended for inheritances which are corruptible and which pass away.

The most sacred thing in the *sanctum sanctorum* of the ancient Hebrew tabernacle and temple was the Ark of the Covenant, the Law, God's testimony to his sense of right, the solitary autograph in human letters of the Eternal, written on stone, inscribed by the very fingers of the Lord God Almighty. Over the Ark which held the Law, God ordered that a Mercy-seat should be placed. "His tender mercies are over all his works," and so his Mercy-seat covered his Testimony. When Adam and Eve had been driven forth, the cherubim had stood at Eden's gate, while a flaming sword turned every way. They were placed there as guardians to keep the way of the tree of life. In the tabernacle the cherubim reappear, but come without the sword, stretching forth their wings on high, covering the Mercy-seat with their wings, and gazing down on the awful mystery of Love overlapping Law, and Law upholding Love.

Behold, I have a vision of the cherubim.

The Ark is carried into the temple not made with hands, eternal in the heavens. The cherubim are instinct with life to the outermost tip of each mighty pinion. The very glory of God descends to make his everlasting throne upon the everlasting Mercy-seat, which covers the everlasting Seat of Law. Before the infinite majesty of that Glory the cherubim arise, and stand in front of God; and, as they arise, the sounds of their quivering wings are heard to the outer court of all the temple of the universe, as the voice of the Almighty God when he speaketh.

See how they stand, so vast and so superb!

The One who has the place by the right hand of the Omnipotent lifts up himself, and all the glory of all the suns is on his brow, and each great wing is like an unmeasured milky-way, ashimmer with the mystic splendor of all stars.

The One who has the place nearest the infinite heart of Immortal Love lifts up himself. His brow is fairer than the light of that morning when all the sons of God shouted for joy. His eyes are lovelier than the sapphired tent that pavilions the eternal throne. His lips are ravishingly sweet with the best beauty that comes from the kisses of the Lord. His wings are pinions whose plumes of whiteness shed thoughts of purity down on angelic minds, and whose immense sweep fans all the love-flames glowing in seraphic hearts.

Twain they stand and twain they turn, until hierarchic circles kindle into rapture at the sight. Even God delights himself in their surpassing glory, and smiles upon them until their vast hearts can no longer hold their divinest joy.

Twain they sing. The cherub of the snow-white wings and palpitating heart breaks heaven's ecstatic silence with the chant, "Holy, Holy, Holy, Lord God of Hosts!"

The cherub of the starry wings and throbbing brain gives antiphone, "Heaven and earth are full of the majesty of thy glory."

The heavens can keep silence no more, but seraphim and cherubim, angels and archangels, shout, shout up at the throne of Love and Law, "Glory be to thee, O Lord Most High!" and from the farthest reach of thought and feeling, all the company of heaven fill the temple of God with the multitudinous and musical thunder of the united and overwhelming "Amen, and Amen!"

And the King, eternal, immortal, invisible, the only wise God our Saviour, wraps those interlocked cherubim in his loving arms, and thrills the heavens with his royal edict, "What God hath joined together let not man put asunder."

Those cherubim sublime are science and religion. As they had no struggle with each other when God gave them birth, as they had no conflict guarding the Ark of Law and Love, as they shall have no discord when leading the choirs of eternity, so they have no conflict now.

In being present at the opening of the School of Christian Philosophy, we have assembled to begin a labor intended to increase the light which shall make all thoughtful people see that he who sets forth that there is any real conflict between real Science and real Religion thereby demonstrates that he has failed to comprehend the function of Science or failed to apprehend the spirit of Religion.

THE FOUNDATION OF CHRISTIAN BELIEF.

[A Lecture delivered before the Summer School of Christian Philosophy, 19th July, 1881.[1]]

By Rev. Lyman Abbott, D.D.

WE have come into an epoch in which the fundamental truths of Christianity are being called in question; an epoch in which the faith of not only a few but of many is being shaken if not overthrown; a time when it behooves us to inquire into the very foundations of the Christian faith; into that on which the our faith is based, and out of which our faith grows. The scepticisms of today are not like the ripple on the surface of the water; the great waves plow deep, though the Christian believes there is in religious experience, as in the waters of the ocean, a line below which the waves do not go, where there is a deep and abiding peace; and it behooves us to find out where this line is, and wherein consists the power of this deep and abiding peace. The questions that are perplexing the minds of the people today are not respecting the details of religious belief or ceremonial; these questions have been cast aside altogether. It is no longer a question whether God exists in three persons or not, but whether there *is* any personal God; not whether men shall pray by the prayer-book or by extemporaneous prayer or by silent aspiration, but whether there is any such thing as prayer; or whether that ladder reaching from earth to heaven, on which innumerable angels are ascending, carrying our prayers up to God, and descending, bringing answers of peace, is but the ladder of a dream from which we are to awaken to find our heads pillowed on the stone. These are the questions which unbelief is asking to-day, and which we must be prepared to answer. Nor is this unbelief confined to those who rejoice in unbelief and make war upon Christianity. It is an atmosphere that is pervasive. There are signs of it in the church, in the Sunday-school, in the home circle, in the religious press, in the form and fibre of religious teaching. You find men who are rejoicing to throw away the sanctions of religion, yet you also find men, and not a few of them, who long to hold with tenacious grasp the faith of father and mother, and yet find it slipping away from them. Religious experience seems to them like a delicious dream; but they are awakening from it and they cannot go to sleep and dream it again if they would. There are ten such sceptics where there is one rejoicing unbeliever. We need in such a time as this to re-ask ourselves the question, Why do we hold to the Christian belief? What is the rock foundation on which it is based? And we need to ask it the more because the quest of the age is a quest after a more sure foundation than that which has been recognized in times past.

---

[1] The Rev. Dr. Abbott's address was delivered extempore. The report here furnished was phonographically reported by Miss Charlotte Reeve.

Up to the sixteenth century the church was regarded as the foundation of Christian belief by the great mass of the people. They believed the doctrines of Christianity because the mother-church told it to them. But the church is with the great mass an authority for Christian faith no longer. We refuse to accept the truth simply because the mother-church tells it to us. The human race has grown too large, too strong, too independent in its thinking to take the declaration of pope, or presbytery, or council, or church as the foundation of faith. You might better pluck the blossom off the tree and attempt to crowd it back into the bud, or catch the eagle that flies in heaven and attempt to put it back into the shell, or take the full-grown man and put him in long clothes and rock him in his mother's cradle, than attempt to put this nineteenth century back into the clothes, or shell, or bud of the sixteenth. There was truth in the sixteenth century, but we will not hold it simply because the church declared it. When the church was swept away as the basis of Christian faith men began to take the Book, the Bible, as the foundation on which to build. For many years men were content to go back to the Book and say, "It is true because the Book says it." Now, whether you may be glad or sorry, that period is passing away and we cannot prevent it. The Bible is not the foundation of faith that it was a hundred years ago. Then when a minister was preaching a doctrine, all he had to do was to cull his proof-texts from the Bible to support it. To-day the enlightened minister can no longer quote his proof-texts to show that his doctrine is true. The mere citation of texts will no longer carry conviction as it did then. The ancients believed that the world rested on an elephant; and when asked what the elephant rested on, they answered, a tortoise. For a long time men believed that the world rested on the church; and when the question was asked, What does the church stand on? the answer was, "On the Bible." Now men are beginning to ask, What does the Bible stand on? Deep down beneath both book and church there is some solid foundation, and we must find out what it is. The Brooklyn bridge rests on two immense stone piers, and the child looking at it says the bridge depends upon these two abutments. But the man knows that deep down below the river-bed is the solid foundation-rock on which the abutments are built. So the Christian faith is supported by these two abutments, church on one side and Bible on the other, yet deep down below these lies the rock-foundation on which these are built. What is that foundation?

The fundamental article of the rationalistic creed is that we get all our knowledge through the senses; that we *know* only what we see, hear, touch, smell, and what we deduce by the reason from the facts that are testified to by the senses. The fundamental article of the Christian faith is that our profoundest, more trustworthy knowledge, comes not from observation, nor from deductions of the reason; that we arrive at it, not by perceiving, nor by conclusions from what we perceive, but immediately and directly. We know the higher truths by personal experience. The evidence of them is immediate and in our own consciousness.

A farmer and his daughter go out to walk in the field; she gathers a handful of daisies and, holding them up, says, "Are they not beautiful?" and the father says, "Tush! child, they are mere weeds; I wish I could get them all out of my field." How shall the child, who is wiser than the father, demonstrate that there is beauty in the daisy? Is there any argument by which the child, who sees the beauty, can demonstrate it to a leaden-headed man who does not see it? You go to a philharmonic concert and you hear one of Beethoven's magnificent symphonies rendered by the orchestra; you listen till your whole soul is filled with the beauty of the music; you turn to the companion at your side and say, "Is it not exquisite?" He replies, "Well, yes, I suppose it is for them that understand it; but I never could enjoy classical music." By what argument can you demonstrate to him the grandeur of the music? No mechanical or scientific or argumentative process, or any other process known to men, can make him see music which is not echoed in his own soul.

As with our knowledge of æsthetic truths so with our knowledge of moral truths; they cannot be demonstrated to us; they are matters of deduction; they are matters of instantaneous perception. How do you know that there are such things as truth, honor, justice, purity, love? Did any one ever see them? did any one ever smell them or touch them? Are they hard or soft? Do they weigh so many ounces? Can you bray them in a mortar? Can you analyze them? Can you test them by any scientific tests? Why, if a politician says, with Walpole, "Every man has his price," you cannot prove patriotism to him, but you will not vote for him. If a man says, "I do not believe there is any such thing as love," you cannot prove to him that love exists, you can only look pityingly upon the man who has never known a mother's love, and who has been left without one genuine friend. When a man says, "I do not believe in honesty," you do not stop to debate the question; you keep your hand on your pocket-book till you are out of his presence; for a man who does not believe in honesty is already a thief. The moral truths are recognized by the moral perception instantaneously. If a man does not recognize them it is because he lacks the moral sense.

Now that which is true in the æsthetic and in the moral realm is true also in the spiritual realm. The foundation of our belief in them is our personal experience of them. We *know* them. How do we know there is a God? From the existence of design you may conclude that there was a designer; but argument never demonstrated to any one the existence of a God who is a Father, who exercises compassion and tenderness towards his children, and who loves them, and whom they may love. You know scientists tell us that the phenomena of light indicate that the whole universe is full of a subtle ether; no man has ever seen it; no man has ever analyzed it; but they conclude that the universe is full of this ether, the vibrations of which produce light, because this hypothesis is the best explanation of the phenomena of light. By and by some scientist may arise and offer a better explanation, and then the old hypothesis of either will vanish away. So long as a man only concludes that there is a God because God is the best explanation of all phenomena around him, he is resting on no sure foundation, and he who will bring him a better explanation will take his God away from him.

We believe in God not because argument has proved him, but because we have in ourselves the consciousness of his presence. He has been our comfort in sorrow, our strength in weakness, our light in darkness. We believe in God because we have felt in our own life a power not ourselves that makes for righteousness. Why do you believe in mother? Because you have seen your mother? I beg pardon; you have never seen your mother. You have seen the face, the eye, the brow, the lips, the form; but that does not make mother. If it does, then why, when the form lies prostrate on the bed, and you look down on the eyes that never before refused to look into yours, and you press your lips to those that never before refused to press on your lips the kiss, and you call the name that you never called on before without getting the response, why is it that the tears gather in your eyes and the grief surges in your breast? Are the eye, the brow, the lips, the form, mother? No; mother is gone though they are there. It is the love, the tenderness, the compassion, the long-suffering, the self-sacrifice—these make mother, and these no man ever saw. And no man has ever *seen* any of all the best and sweetest things known to our humanity.

We believe in our immortality not because the arguments addressed to us prove it; but, as the bird believes in its power to soar in invisible air even before its wings are fledged, so we feel within ourselves the consciousness that in our souls there is the power of flight that shall show itself when once the cage-door is opened and we are allowed to fly out from behind our prison-bars. The Christian believes in Christ not because of philosophical arguments or proof-texts, but because when we attempt to bring before us our own puny conception of God, it fades into nothing before this glorious portraiture of divine life. We believe in Christ's atoning sacrifice, because when we come to this story of One who has suffered and died for us, the load is lifted as the load was lifted from the shoulders of Bunyan's Pilgrim, and we see it no more.

The great truths that God is, that we are sinful, that he has provided for our redemption, and that he fills us with his divine life, rest on the testimony of our personal consciousness. And it has the testimony not of a single witness, but the concurrent testimony of many witnesses. It is not that a single man imagines that he has received strength and comfort from without, but all through the ages men have been experiencing this divine flow of soul. Men call Christianity a dream! If it is a dream, then hundreds of thousands all through the centuries have been dreaming this same dream, and those who have been the most unhappy and the most pernicious of the race have been those who have had their dreams broken.

Go with me to-day around the globe, and you will find in the woods a man lifting up his heart unto God wholly unable to utter his experience in words; in the log-cabin a little company singing their praises unto God; in the Roman Catholic cathedral, with its vaulted roof, its pictures and its statues, one telling off her beads, kneeling on the hard stone floor; then in the land where no message of the gospel has ever come we will find one and another and another clasping his hands and throwing out his heart's cry, longing for help, looking up to an unknown God. But whether in the leafy silence of the wood, or in the Quaker meeting, or in the Methodist gathering, or in the Episcopal Church, or in the Roman Catholic cathedral, or in the uncultured poor blind prayer of the pagan, everywhere shall come back some answer of peace and life, everywhere a testimony in consciousness to the grace of a helpful loving Father—God. This globe is encircled with the testimony of myriads who bear witness in their own personal consciousness to the truth of a God that sustains and comforts and pardons and inspires and fills with life. That is the foundation that lies under both church and Bible that is the foundation of our belief. Of all fears, the fear of a victorious infidelity seems to me to be the most foolish. Some articles of your creed may go, and your creed be better for losing them; but the great fundamental facts attested by human experience and by the world's history never go. They will last as long as humanity itself lasts, because it has been thoroughly wrought into the nature and experience of man.

Men call this scepticism a fog, and so it is. In August, when in Orange Co. the grass is sear and yellow, the flowers are all wilted and faded, and the trees hang their leaves in fear and sorrow, if you will go to Newport, there you will find the grass green, the flowers fresh and fragrant and bright, and all the trees of the forest clapping their hands; because every week God puts his hand into the Atlantic ocean and takes up the water as in a sponge, and holds it over the land, and squeezes it there until every leaf of every tree has drunk its fill, and then sweeps it back again into the sea. So when God shall have accomplished all his will out of this age of doubt and interogation, and shall have swept back the fog into the sea, there will not be one blade of grass in all God's garden that will not stand out the brighter.

Men call this scepticism a tidal-wave; and so it is. The child and the man stand on the shore of the Bay of Fundy, and when the great wave comes rolling in the child cries, " Run, father, run! the ocean is going to wash the world away." The father smiles and says, "Wait, child, wait." Then the great wave breaks into atoms of foam and rolls back into the sea, and the rock remains unchanged. So when the great tidal-wave of scepticism shall have fulfilled its mission and rolled back, the Rock of Ages shall stand fast in human experience through all time to come as it has stood firm in all time past.

WHAT WE MEAN BY CHRISTIAN PHILOSOPHY.

[A Lecture delivered before the Summer School of Christian Philosophy, 13th July, 1881.]

By Noah Porter, D.D., LL.D.,
President of Yale College.

I AM aware, as many of you must be, that the phrase Christian Philosophy is rejected by many well-meaning and truth-loving men as unmeaning and unscientific. They would urge in objection that a philosophy committed beforehand to the support of Christianity must thereby sacrifice its scientific independence. Moreover, Christianity is in its form a historic narrative, a simple record of facts, a story of events, a portraiture of persons; what can it possibly have to do with philosophy, which concerns itself only with forces and principles and laws? Then, again, the events and personages which Christianity records are supernatural, whereas science and philosophy know nothing of the supernatural, but are limited altogether to those forces which are natural and those laws which are constant and fixed. Philosophy also addresses itself to the Reason, whose principles of evidence are clear and unchangeable, and whose methods of inquiry are definite and uncompromising. Christianity also appeals to Faith, which, whatever it may be as a form of belief or conviction, is neither compelled by demonstration nor silenced by experiment. The spirit of Science is aggressive and self-relying. The spirit of Christianity is self-distrustful and confiding. Christian knowledge, moreover, thrives in the sphere of emotion and aspiration. It requires and rejoices in the genial warmth of the affections and the hopes. But science admits no other light than the cool and dry light of reason; it shrinks from every influence that does not either justify or compel conviction. To finish the argument, Christianity has jealously withstood every advance of science which has questioned its dogmas, and every attempt of philosophy to try its conclusions by verifying tests and processes. Science has made progress just in proportion as it has been indifferent to these fears or braved this hostility. For these reasons there can be no propriety in recognizing any philosophy as Christian. It should be esteemed a positive offence and dishonor to science to teach any of its principles in the interest of, or with any reference to, the Christian faith. It follows that each can serve itself best by leaving the other to itself. Each should be content with its own methods, its own criteria of truth, and its own conclusions, and be entirely unconcerned with any possible relations which it may hold to the other. These views are not held by scientists and philosophers only. They are accepted and enforced by not a few Christian thinkers, and in the interests of their faith. Whatever may be the spirit in which these views are held, it cannot be overlooked or denied that they are extensively received and earnestly propounded by many scientists on the one hand and Christian theologians on the other.

I propose briefly to inquire how far these views are just, and in doing so to ask whether there is any such thing as a Christian philosophy, and if there is, what are its limits and its extent, what subjects it excludes and what it embraces within its sphere, what are its methods of inquiry and its grounds of conviction.

I. I would ask you to consider *first* that Christianity is *more* than a history. It is, indeed, a record of facts and events. But these facts and events are significant and important only as they relate to important principles and truths. They do not prove these principles, but they assume them to be true—as that there is a personal and self-existent Creator, the originator of the forces and the upholder of the laws of nature, who can be known by man, who is interested in man, and can be honored and loved by man; that man is morally responsible to himself and therefore to God, and needs guidance and help from God; that he is destined to, and capable of, another life. It is to man as such a being that God reveals himself, according to the Christian story. It is these truths concerning God and man which give to the events of this history all their significance and interest.

II. Not only does Christianity assume these truths. It also *enforces* them. Rather it assumes them that it may enforce them, if its story is true, by the most impressive and moving of all manifestations of a personal character, which touch the affections and conscience and arouse and stimulate all the springs of action. True, it does not utter these truths in the language of the schools. It scarcely propounds or recognizes them in abstract language at all, but it impersonates them in living beings, whose looks and words and acts move to a believing and loving response. But the truths and principles, for all that, are ever present and give to these personal acts and words all their meaning and interest.

III. Every one of these truths has some possible or actual relation to scientific thought. As a consequence, Christianity is brought into permanent relations to philosophy. Let any one of these principles be set aside as impossible or false, and the Christian history becomes at once untrue and insignificant. Let philosophy show to its own satisfaction that God is a fiction of the fancy or an impersonal force, or that he is only a name for the universe itself as an organic whole, or that while he exists he cannot be known, or that so far as he is known he must be falsely known, or that man is without moral freedom and therefore incapable of moral responsibility, or that the future existence of man is scientifically impossible,—and the interest and force of the Christian story are necessarily set aside. It becomes nothing but an interesting record of a faith that once was living but now is dead. What had been a temple filled with believing worshippers becomes a mausoleum in which the curious stranger hears the hollow echoes of his solitary footfalls as he walks over the tombs below,—in which all who once worshipped above now sleep beneath, and with them are buried forever all that made the temple a hallowed fane.

IV. These truths, if they need any proof or are capable of being proved, are in no sense dependent on the testimony of Christianity, but must be tried at the bar of philosophy. When we say they must be tried in these courts, we do not assert that the evidence on which they rest is either demonstrative or experimental. It may be neither. It may be of a kind peculiar to itself. It may be intuitional and self-sufficing, or possibly, so far as our argument goes, supernatural. We care not to inquire or to answer, so long as it is clear that philosophy must either pass judgment upon the evidence as satisfactory, or at least as not inconsistent with its previous decisions, or must send the case to a court to which it allows jurisdiction concurrent to faith itself.

V. For these reasons the principles of Christian philosophy are easily, and they ought to be carefully, distinguished from the truths of Christian theology. The truths of theology are, and those of philosophy are not, supported by testimony. The relations of the two to scientific evidence and proof are for this reason unlike. We grant that truths of theology proper, when accepted on testimony and by faith, hold an important relation to philosophy in that they must be believed to be scientifically possible and credible, and to a certain extent must be defined and explained and arranged after scientific methods. Every system of theology seeks to be in this sense scientific. Every catechism is an introduction to the science of Christian theology. So far as Christian truths are defined and explained they constitute such a science, whether the principles are received on the authority of the Scriptures, of tradition, or of the Church. On the other hand Christian philosophy limits itself to those truths, and to those relations of truths—whether they are historical or revealed, personal or supernatural—which in some sense shine by their own light or rest on the evidence of Reason.

VI. The nature of Christian philosophy is brought into bolder relief by the fact that its distinctive principles have been held by not a few men who did not accept Christianity as historically true or in any sense as supernatural. Socrates, Plato, Marcus Antoninus, Theodore Parker, Francis Newman, are by no means isolated examples. Men such as they have not held these truths by intellectual belief alone, but with a fervid personal faith. But they held them as philosophers by a necessity and conviction that were intellectual and a logical consistency that was scientific. They carried these principles into their theory of the universe, both the physical and the spiritual, adjusting to them their judgments of nature and the soul, of man's history and man's destiny, of society, government, and law, of the ideal of human life and attainment, thus bringing their applications into intellectual consistency, and binding their conclusions into a more or less coherent scientific system.

VII. In like manner there have been held in ethnic and Christian schools a variety of theories antagonistic to and destructive of what we call a Christian philosophy—theories which have denied thought or purpose in the universe, and substituted blind force for intelligent origination; which have resolved the order of the kosmos into the struggling forces of self-existing and self-impelled atoms, that swim in the chaos of their drowned compeers; which have denied any care for man, or power to help, on the part of God; which have excluded from man any foundation for moral self-respect or moral responsibility, and have bravely accepted and frankly avowed the consequences of their theories in some one of the manifold varieties of materialistic atheism. We cite Democritus, Lucretius, and Hobbes as holding theories of this sort. We might cite not a few now living were it not easy for such to disown affinity with the older atheists by a newly invented terminology for very similar principles. The fact that Christianity makes these truths more definite and vivid, and reinforces them with new effect, and invests them with the glow and fire of personal energy, does not make these truths to be any less philosophical in their nature any more than the fact that some non-Christians hold them makes it improper to speak of a Christian philosophy.

Why then, it may be asked, if this philosophy may be and has been held by those who receive and those who do not receive the Christian faith—why call it distinctively Christian philosophy?

1. To this question we answer: Because it is a simple matter of fact that Christianity first forced these truths effectually upon the world's attention and the world's acceptance by means of its supernatural claims and its supernatural history, and caused them to be largely accepted as principles of the world's philosophy which now commend themselves to man's reason and shine by their own light. In defending itself, Christianity has been forced to defend these truths on grounds of reason against the attacks of subtle and powerful antagonists, and sharply and still more sharply to define them, under the unsparing scrutiny of keen-sighted critics. In these attacks and defences these truths have been brought into every conceivable relation to other truths and theories of science and religion. When the discussions have seemed to be purely theological, they have very often, if not more frequently, turned upon some principle of this underlying philosophy. It does not follow because Christianity has inwrought certain truths into the world's philosophy, that it has taught them by authority or enforced them by miracle or testimony. This inference is excluded by the undisputed fact that in its use of miracle and testimony Christianity assumes these principles to be accepted and to be necessary in order to give force or significance to miracle or history, and that again and again it has rested its cause on grounds of philosophy alone. Much is said in these days of the hindrance which Christian theology has been to science and philosophy. Much might be said of the stimulus and aid which it has given to both in a moral and intellectual way.

2. Not only has philosophy been stimulated and shaped by the earnest thinking of Christendom upon Christian themes,

but it has moulded Christian civilization and organized Christian institutions. The civilization and institutions of modern life are the products of Christian ideas, to a large extent of the positive and supernatural facts which Christianity asserts, but always of the great verities which give these facts their significance. The amenities, the manners, the legislation, and the jurisprudence of modern life are the always blooming flowers and the ever ripening fruit of the ideas of God, of the soul, of duty, and of immortality which Christianity has made sacred and energetic. In other words, Christianity has given the world a peculiar and practical philosophy of belief and of life, which has become a new atmosphere for its thinking and feeling. This atmosphere pervades the streets of every city, it is diffused over wide spaces where man dwells far from man, carrying protection and courtesy and honor and truth where otherwise lawless violence and brutal rudeness would have been unrestrained. The complicated organism of modern life, which we call its credit and its commerce, its culture and its arts, its morality and its refinement, is constantly renewed by the force of these ideas of Christian philosophy, which are the life-forces of the ever growing and ever more ramified structure: as the oak which has stood for centuries feels the force of one life through every fibre and leaflet and bud. Let these ideas fail, by the prevalence of an anti-Christian philosophy, or let them be weakened in their force, and the structure will lose its coherence and show by its slow or sudden ruin how powerful and necessary to its existence were the truths that gave it strength and beauty. We may *conceive*, if we do not believe, that faith in Christianity as *a supernatural force* should die out, and the strength and beauty of modern life should remain, but we can neither conceive nor believe that faith in the truths of Christian philosophy should fail and this fair structure should escape the dry-rot which must slowly sap its strength, or the swift ruin which would attend its sudden fall.

3. Christian philosophy, however, like philosophy in general, should be sharply distinguished from any one of the special sciences. It would be absurd and unmeaning to speak of

Christian physics, or Christian mathematics, or Christian geology, but it by no means follows that it is unreasonable to speak of Christian philosophy. The reason is obvious. Every single science is limited to a special class of phenomena and certain easily distinguished powers and laws. Philosophy concerns itself with those powers and relations which are common to many phenomena and which are the conditions of every special science and of all scientific knowledge. A special science may be prosecuted without either asking or answering the question whether there is a God or whether the spiritual agent, vulgarly called the human mind, that builds its knowledge into a science can be material in its essence or evolved from matter, or what are the grounds of its belief in the order of nature, or is there a purpose or design in the universe, or can the soul survive the body. These questions are more or less properly questions of philosophy, as it is distinguished from any one of the sciences. That this distinction is well taken will appear from a few examples. Physics is limited to mechanical or molecular forces and the bodies in which they inhere. It treats of adhesion and impulse and pressure in molecules and masses and liquids; of *matter* as its parts cohere in solids or flow in liquids or are repelled in gases, as it undulates in light or expands and glows in heat or palpitates in electricity, as it manifests force now as heat or electricity or light, or capacity for mechanical work. Chemistry, again, has to do with another set of properties and relations by which two or more elements unite in a result unlike either, and attract and repel each other in definite proportions.

Physiology has to do with another set of activities and relations by which living tissues are formed that manifest peculiar properties and organs which perform special functions. Mathematics, again, has to do with *pure* quantity as conceived by the mind, as in geometry and algebra, and with applied quantity as in mensuration, surveying, engineering, gunnery, and other arts of man; or on a larger scale in astronomy, that measures and weighs the celestial masses in their movements and predicts their places; or in chemistry, that combines and repels its molecules in strictest obedience to the relations of number by a skill and thought even more consummate—if indeed the vast universe of masses and the minute universe of molecules have a thinker at all.

The agents and powers with which physics, chemistry, and physiology are concerned exist together in the same universe and have some common relations with one another. Mathematics has relations common to all, for its quantities are recognized in all and applied to all. Inquiries respecting the conceptions that enter into each of the several sciences, whether they are assumed as existing in the universe or as governing the mind of the scientific inquirer in his efforts to interpret the secrets of nature, necessarily define the bounds of philosophy as distinguished from science.

Such inquiries will compel us to ask whether thought or blind force originated and rules the universe; whether man who interprets the universe can intelligently solve its riddles, or whether he is always impelled to guess whether he shall outlive the matter over which his triumphant thought and skill is perpetually proclaiming him master and king. That there is such a science, or, which is the science of the sciences, the *prima philosophia*, has been recognized by all thinkers from Aristotle down to Huxley and Tyndall.

It is not my object to define or describe this underlying and fundamental branch of knowledge, or to insist that philosophy is its fitting name. I desire only to show that it exists or ought to, and that it proposes and seeks to answer the most interesting and important questions which can occupy man's intellect or which concern his destiny.

4. These points being established, I proceed to say that a man may be a very eminent scientist without being an eminent philosopher. He may even be pre-eminent in his mastery of a single science without giving special attention to the philosophy of that very science of which he is master. To be eminent in astronomy or physics or chemistry or physiology, one needs only to accept the conceptions and definitions which the great discoverers have gained, without inquiring into the exactness of the definitions or the consistency of one definition with another—

much less without asking or answering any questions concerning the relations of his own science to other sciences or to the sciences in general. These sciences are very largely sciences of observation and experiment, and they permit the amplest range for the energy of the most zealous devotee, who would be hindered and distracted if he concerned himself with their underlying philosophy. It is only the more inquisitive minds, the minds of larger and more generous spirit, which cannot be restrained from searching after the authority of the principles and laws which he is daily and hourly applying.

Even in the pure mathematics—the science of abstractions, whose elemental air is transparent ether itself—a man may be eminent in resolving problems and inventing theorems, who accepts the axioms without asking after their authority, and uses the definitions without inquiring concerning their fitness,—much more without ever caring to ask what is the mental process by which the mind gets possession of *the point, the line, the circle, the cube, or the sphere;* or what is that mysterious entity which men call space, in which these geometrical constructions seem to float as fish in the sea, and to which the reasoner is always referring whether he knows it or not.

5. If now we turn to the special sciences which concern themselves with the human spirit, we find them lying nearer to philosophy, as we use the term, than the physical sciences in which observation and experiment test every theory and try every definition. It is not true that the phenomena of knowledge and feeling are energies any the less real or potent than are the manifestations of gravitation or electricity. It is true, however, that electricity and gravitation are nothing except so far as they are known. The act of knowing is superior to all others, because it is the agency by which nature reappears in the form of a demonstrated science, or is explained by a sagacious theory such as the leaders of science are now and then inspired to frame, as that of Copernicus and Newton and Faraday and possibly Darwin, or is tested by decisive experiments such as Franklin and Davy have devised by skilful invention. The agency of knowledge in interpreting nature is as real and potent an agency

as any of the powers of nature which it brings out of its hiding-place and forces to declare the secret of her working. If the power of knowing is as real as any force which is known, it is not lower but higher in rank, because it cannot itself be tasted or seen or touched or weighed by the pound or measured by the inch. Only let us remember that itself sees and touches and weighs and measures, not gravitation and electricity alone, but every property and relation in the universe, from any of the single forces which, as light and heat, pervade all space to any momentary combination of one or more under which the gossamer floats and glistens in the sunbeam, or which whirls the smaller atom or molecule around its centre, or hurls the gaseous particles with tiny but unfelt strokes against the silken walls which they expand but cannot break.

Is mental force any the less real or less worthy of scientific study because its energies and intensities cannot be weighed and measured? It would seem that it is not to the man who remembers that itself weighs and measures all physical energies and can even construct, by processes which it is itself puzzled to explain, the entities of geometry and number and yet is forced to set them up, it knows not why, as the tests and standards of trustworthy knowledge. The science which has to do with the intellect of man has indeed, like chemistry and physics, its own special subject-matter; but inasmuch as this very subject-matter is the function of knowledge itself, it cannot be studied as a special science and continued without leading to the portal of what we have distinguished from all the special sciences by the name of Philosophy. The same is true of ethics, or the science of the ends and rules of human activity. This science, like physics and chemistry, deals directly with its own limited subject-matter. To this subject-matter the adept must in a certain sense limit himself if he would understand his materials and master his tools; but he cannot completely cover his own department unless he studies man in his relations to his fellow-man, to himself, to the animal creation, to the future life if there be such a life, and to his Creator if he can be known. Let him seek never so earnestly to confine himself to ethics alone, he will find before he is aware that he has entered upon the field of philosophy, and within this into the division of Christian theism or the division of anti-Christian and possibly also of anti-moral atheism.

6. No special science can possibly fall out with a true philosophy or come in conflict with it. You might as soon conceive that a house should fall out with a solid foundation, or a tree should come into conflict with its well-established roots. The teachings of the two can never clash. If it can be shown that a theistic philosophy, or a philosophy that recognizes a plan of benevolence in the universe, involving responsibility for man and the possibility of immortal life, is the only rational or the most rational explanation of the processes which every special science conducts and the axioms on which it rests, then there is no place for any conflict to arise between any special discoveries which any science can reach and the processes by which they are attained or the faiths which these processes assume. Each has nothing to fear from the other. The two cannot possibly come into collision.

7. In order that such a philosophy may show itself to be true, it must show itself to be broad enough for every science to rest upon—the sciences of spirit, with their peculiar properties and laws, as truly as the sciences of matter, with the properties and laws of each. It must explain every description of phenomena, the moral as well as the rational. It must provide standing-room for all, it may exclude none. It cannot be inconsistent with any.

Mathematics and physics and chemistry and physiology and geology and psychology and ethics and political science, and even theology and religion, must each be recognized. The rights of each must be acknowledged. A philosophy which is subjected to such a test as this, which is constantly liable to criticism and complaint from every party, cannot be charged with hostility to any, because perchance it may assert that belief in spirit, in God, and in immortality is a necessary condition or consequence of its being a philosophy at all. I do not assert that there is no exposure to mistake or error in determining a true philosophy, but these exposures are trivial as long as it is tried by scientific methods and sought for in a scientific spirit. If it is urged that there are biassing influences in favor of a philosophy that satisfies our higher wants and aspirations, we reply that there are also biassing influences against such a philosophy. If theism attracts some minds on what are called theological grounds, atheism does the same. For atheism is as truly a theology as theism, and now and then seems capable of kindling a zeal that overleaps reason and flames into a fanatical ferocity.

8. On the other hand there is serious danger lest the devotees of a special science should make it the rule for every other, and exalt it into a fundamental philosophy. Some of us remember the fable of a besieged city for whose defence a council of citizens was called, representing the chief occupations of its inhabitants, and how, after each man had set forth the virtues of the material he dealt in, the tanner contended that among all there was nothing *like leather*. This story is exemplified in so grave a matter as the philosophy of the universe. The ultra-materialist cannot believe that anything is real except matter, or that there are any properties or laws which science is bound to respect except the properties and laws of matter.

It is no dishonor to the devotees of the physical sciences to assert that they are especially exposed to this temptation. These sciences are, as they ought to be, largely sciences of observation and experiment, and the facts and theories of which naturally engross the attention and occupy the mind. The *philosophy* on which they rest is a matter of curious interest only to the few. It has no direct interest for those who are occupied with ordinary physical researches. It is not surprising that such men should be ready to explain the phenomena of life and of spirit by the forces and laws with which they are familiar, and be prepared to believe that matter and motion account for the existence of the universe and the occurrence of its phenomena. This is less surprising in consideration of the fact that so great a variety of the most refined material forces, as light and heat and electricity, have to the satisfaction of many been resolved into a single force, and that this force has been ascribed to the capacity of material particles for varied forms of motion. If this be so, the physicist reasons, let the material be a little more refined and the motions be modified, and matter will put on the phenomena of life. Let the process advance to a higher potency and spirit will appear in its feebler and humbler forms; let it proceed still farther onward and upward and the highest forms of intellectual and moral activity will be manifest. If what was once dead matter can by forces and agencies within itself be sublimated to their finer activities—if that which seems so gross can be finely touched to issues so fine as these—then the universe of matter, self-moved to the noblest manifestations of thought and feeling, has no occasion for any other intelligence than such as sleeps in its own atoms and can be evoked by a happy combination or a swiftly moving stroke. The growth of materialistic evolutionism is similarly accounted for. Let the phenomena of life attract the scientific study of a generation of devoted students. Let the mysterious process of growth from the seed to the plant and the embryo to the perfected animal be the subject of curious yet familiar interest and development becomes the word of the hour, at once exciting the curiosity by its peculiar mystery and then sating it by its frequent recognition till it forgets that it is the greatest of wonders. Let it be discovered that development has a wider range and application than had been supposed, even among living forms and beings; that many so-called species have originated from a simpler form. Let the truth be accepted among zoologists and palæontologists that a law of progress can be traced from simpler to more complex forms of life, from the fossil period down to the present. To any conclusions of this sort philosophy can have no possible objection, provided they are sustained by scientific evidence and are supported by scientific arguments. But when the analogies of the growing seed or embryo are extended to lifeless matter and made the substitute for creative force; when an unthinking tendency to variation coupled with a tendency to conservation equally blind are asserted to be the last formulæ which philosophy needs; when star-dust, rushing from a rarer to a denser medium, is deemed the only, and the ample, explanation of the structure and order of the planetary system, of the production of air and water and earth, of the production of animal and vegetable life, of the manipulation of sensitive, intellectual, and spiritual activity, of conscience, law, and religion; when, in short, the development of the germ of plant or animal is accepted as the ultimate solution of the evolution of the kosmos and all which it contains, even to the mind of a Humboldt which reflects it by scientific explanation, then we have a right to say in the name of philosophy that the idols of a single private chapel of knowledge shall not be admitted into its sacred fane and lifted up upon the high altar of philosophy. And we do this with reason, forasmuch as the doctrine of evolution, even if it were true, is no fundamental conception on which all the sciences can stand, but supposes many other such conceptions, pre-eminently one, and that is the conception of a plan beginning millions of ages past, most comprehensive of minute detail, infinite in the possibilities which it realizes and rejects, and steadily pressing forward towards its fulfilment—in a word, supposes a creative energy of unexhausted capacity and intelligent wisdom.

In some of these remarks I have anticipated the discussions which lie before us. The remarks may, however, serve to impress the conviction which thinkers of all schools of science are beginning to acknowledge, that the questions that are now agitating the devotees of any department of knowledge can only be answered by asking profounder questions in respect to man's nature, *i.e.*, his capacity to know either matter or mind; in respect to the essence of matter, of life, of sensibility, of science itself; in respect to duty and right and immortality; and again, in respect to the destiny of man as an individual and as a race, in the present and in the future life—most of all in respect to God: whether science compels us to recognize Him or must shut and bar forever the brazen gates which seem to lead into His inner sanctuary, and will forever delude and tantalize the successive generations that stream towards those gates by painted and gilded mockeries that at a distance seem to reveal the mysteries of the highest truth, and on a near approach vanish like the vapor before the sun.

Questions of this sort agitate thinking men to the very depths of their being. They cannot be evaded. They can only be answered by cherishing the truly scientific spirit—that spirit which, according to the great expounders of the modern scientific method, is coincident with the spirit which the great Master of Christian truth declared was indispensable to a man who desires to enter into the kingdom of heaven. In prescribing this spirit in searching after truth, the great Master of Christian thinking has given the sufficient rule and inspiration for all philosophical inquiry. Hence when he founded the kingdom of God upon earth he provided a place, and a very large place, in it for a Christian philosophy.

FREEDOM OF WILL EMPIRICALLY CONSIDERED.

[A Paper read before the American Institute of Christian Philosophy, 26th January, 1882.]

BY JOHN BASCOM, LL.D.,

President of the University of Wisconsin.

IT is not our present purpose to present again the proofs of liberty in human action. These proofs are so primitive in their character, approach so nearly the first principles of reason, that later discussions of them between the defenders of philosophical systems do not often subserve any purpose of conviction.

The object we now have in view is a consideration of liberty as it offers itself in experience, first, in the relation of the mind to the brain; and, second, in the reaction between the powers of the mind and the products of those powers in the world about it. If we were to grant liberty theoretically, should we find its exercise possible under our present experience? This is the question we wish to answer.

It will not be amiss to remind ourselves in starting of the nature of the interests involved in this discussion of liberty. Moral facts are supreme facts in human society. The axiomatic principle on which these rest in the general mind is, Responsibility is commensurate with power. This involves at once choice as the indispensable condition of virtue. We are not considering in morals a balance of tendencies, but a balancing of tendencies—a dealing of the mind with tendencies. No adverse statement at this point has weakened the general convictions on which morality proceeds, or presented itself as more than an ingenious evasion of them. Virtue and liberty rise and fall together; whatever the one loses the other loses also.

The same relation belongs to truth and liberty. Truth is to be inquired into and sought out. It may be attained, and it may be missed. That movement of mind, therefore, which is to be occupied with this work of inquiry must be flexible and spontaneous; must be at liberty to guide itself by the purely intellectual laws of logic. If thought is in any way subjected to forces beyond itself it can no longer shape itself freely to its own conditions. Conclusions reached under a physical necessity have nothing to do with truth. They are facts, not truths. The laws of logic are not laws in this sense, the mind must move logically; but in this sense, the mind must move logically if it is to reach the truth. The implication is that the mind may easily move illogically, and miss the truth; that it shapes its own movement to its own object; that it is free, and that truth is the reward of freedom wisely exercised.

The beauty of the world involves a like conjunction of liberty and activity, though less obviously so. Beauty is fitting thought and feeling rendered in a form wholly suitable to them. Its pursuit involves, therefore, an ideal, and a spontaneous movement toward that ideal. Impulsion and force are alien to beauty. Attraction and freedom are of its very nature.

Nor, indeed, does the plain idea of serviceableness—rendered as man always will render it—lack this notion of liberty. The world is made up of forces that may be used, and of powers in man that may use them. It is made up of the fixed and the flexible, and neither term can be lost and the serviceable process remain. State the case strictly under the forms of empirical forces, and not only do virtue, science, art disappear, use also disappears. We use things in this higher sense when we shape them to our purposes. We use air not when we breathe it spontaneously, but when we fill our air-brakes with it. We use water when we convert it into steam in our boilers, rather than when we drink it under an organic impulse. If the world, both in matter and in man, is made up of forces under settled laws of interaction, man no more uses matter than matter uses man. If we include in the natural what is causal and fixed, and in the supernatural what is free and flexible, the natural can never be in any way handled or interpreted or used without the supernatural. Whenever interpretation reaches either comprehension or use it must do so by virtue of the supernatural, and in behalf of the supernatural. To these ideas of knowledge and of service the one is as necessary as the other. The knowing and using agent is not at the same time and in the same relation a part of the thing known and used.

Human knowledge and human liberty, fundamentally planted in this union of the physical and spiritual, as we here conceive them, show empirically two lines of limitation. The first of these appears in connection with the brain, the medium by which the mind receives influences, and the instrument by which it communicates energies. We may pass at once to the extreme conclusion which science is approaching, that the nervous system in man, with its great centre, the cerebrum, is constructed throughout with definite lines of inner and outer movement. Organic connections differ from mechanical ones in admitting a greater variety of offices, and allowing a freer substitution of one organ or one method for another; yet a distinct constructive purpose rules an organism as it rules a mechanism. The definiteness of the nerves and of the exterior termini of nerves in the nervous system carries with it a corresponding definiteness of offices both in them and in the great nerve-centres. Exactness in superficial relations without exactness in interior ones would be futile, the meaningless juncture of order and disorder. The distribution and precision of the surface indicate like exact inner relations in completion of the one plan. Observation of the effects of obstruction and of disease in the brain, and of artificial irritation of its different localities, serves also to disclose explicitness of office combined with organic flexibility.

There is nothing in this which liberty may not easily accept. This dependence of the mind on the body gives strict conditions to liberty, but does not take away its first terms. The tool is an instrument to the hand; the hand is an instrument to the brain; the tool, the hand, and the brain are conjoint instruments to the mind. The workman cannot go beyond the possibilities of his tools. His circuit of liberty lies within those possibilities. The mind united to the body receives from it what we may call two sets of limitations, or two sets of powers as we choose to regard them: those which pertain in the senses, to the ingress of knowledge, and those which pertain in the muscular system, to its egress in action. The nervous system is the medium in each case, and the bond between the two.

The only view which at all interferes with liberty at this point is that which regards all action in consciousness as a secondary accompaniment of this interplay of stimuli and activities in an organism, and so determined in its phenomena by it. *If* the chief nerve-centres, more especially the cerebrum, in man are the seat of a series of interactions which take place between the inward movement and the outward one, and are governed by them; if the phenomena of consciousness are simply the accompaniments of these complex actions and reactions in the brain, then liberty is lost, not limited by such conditions.

The adverse reasons are many. (1) A very large share, much the largest share, of nervous interplay goes on both in the lowest and in the highest life without consciousness. Consciousness is certainly no necessary product of merely nervous interaction. (2) Consciousness regarded in this light is from beginning to end a superfluous term. If consciousness is incident to forces seeking directly their own ends, we have no more use for consciousness in living than in dead things; no more need of it in securing the muscular activities that follow thought than in the circulation of the blood, or in uniting the recognitions by the eye of the characters on the printed page with the muscles of the throat in articulation. If no state of consciousness is of itself productive of subsequent states of consciousness, but all are alike dependent on underlying cerebral conditions, then each state of consciousness and the entire series of states are, in reference to physical events, supernumerary results. Between these states and these events it is impossible to affirm any correspondence which is of the nature of knowledge. (3) Consciousness has been introduced in development, on the contrary, as a new term in a higher life, incident not simply to organic relations, but one that seems greatly to extend them and put them to new service. (4) There is no known counterpart of any given thought in any given molecular changes of any nerve substance. The first and fundamental step of proof in this direction has not yet been taken. The whole theory of correspondence has not one explicit fact to sustain it. The senses are definite in their outer conditions and inner impressions; the activities are definite in their inner conditions and outer effects; but our experience does not extend or cannot extend to any pure mental state as the exact counterpart of a physical one embraced between these two lines of ingress and egress. Arguments looking to such a conclusion are all inferences from insufficient grounds.

There are two contrasted views that we may take of the relation of the processes of pure thought to cerebral action. We may regard them as strictly incident to cerebral changes which intervene between sensation and action. This supposition implies an exact and causal connection of each specific cerebral state with a corresponding state in consciousness. The line of efficient forces is thus maintained in the physical world. Or we may regard pure intellectual activity as a distinct term, under its own laws, which is introduced between sensor impressions and muscular actions, as the musician is an independent agent between the sheet of music that lies on the piano and the instrument itself. On this supposition the mind as mind receives impressions, correlates them in its own fashion, arrests them or passes them on in effect according to its own ends. We may, if we choose, modify this second opinion by still further supposing that there is a distinct molecular state of brain as the necessary accompaniment of each thought, but that it is secured by existing states of mind and not by antecedent sensations. This expansion of the theory, however, seems to be a weak concession to physical ideas, as no such correspondence can be proved, and the cerebral states thus accompanying pure thought would have causal connections neither with antecedent nor subsequent cerebral states, would be a dead term in the material world, and serve no known purpose in the mental one.

Several empirical reasons are urged for the strict dependence of thought on cerebral states. In insanity, it is said, the mind is subverted in its action simply by disease of the brain. But this it should be under either view. The mind is dependent for its facts or supposed facts on a nervous organism, and an abnormal state of the organism may wholly alter the data of thought.

The quickness, however, and accuracy with which the patient reasons from his premises are often very observable. If the sensor and active physical powers are broken down by disease, the mind on the one side loses data, and on the other side the power of expression. Aphasia, or the inability to utter or to write words, is often offered as proof of this dependence. This fact, however, seems to look in the opposite direction, as the idea is still grasped by the mind even when it cannot control the organs of utterance.

But the experience which looks most directly to a constant and complete dependence of thought on cerebral conditions is the sense of fatigue and the waste of nerve-tissue which accompany the action of mind. This fact requires careful consideration. Under all theories the brain is the medium of impressions and expressions, and the action of the mind lies between the two. The only question is whether it lies as intervening cerebral links between cerebral states, to which connections thought is incidental; or as a relatively independent spiritual power to which no cerebral state need be set apart. In either case the action of mind involves sensor activity and motor activity, and this, too, in a much higher degree than is usually thought. It is this incipient or complete ministration of sensor and motor action of the brain to the mind that we would regard as a sufficient explanation of the fatigue of mental activity.

Things and words are the counters of mind, and without them it can make only the feeblest advances in reflection. But things are sensor impressions, and our acts of attention, analysis, and arrangement are sensor impressions and motor activities. The sensor and motor terms are as omnipresent in inquiry as are the two poles in an electric current. Still more if possible is this true in the use of words, the most intimate and constant means of thought. When the words of others direct us, they become sensor impressions that call for careful attention. When we ourselves guide our thoughts by words, they are either distinct motor terms or *quasi*-motor terms.

All acquisition commences with language and seeks its constant aid, and as language has a definite cerebral term involved in its use and expression, we find in this fact an occasion for a consumption of nerve-tissue in all mental action. Children, if circumstances admit the habit, prefer to study aloud; that is, to aid the comprehending process by a full use of its counters. If the habit is inconvenient, the pupil will often move his lips without emitting any sound. He still finds the incipient utterance of the accompanying words a help to the mind. Some adults are aided in understanding a book by reading it aloud. All persons observe the much greater clearness of thought which follows the utterance of one's conclusions, or the writing of them. Even dreams frequently lead to talking in sleep. All these things show that it requires considerable effort on the part of the student to reduce the language which he employs in thought to its lowest terms in nascent expression.

A little attention to our mental processes will show us that language never disappears in thought, but that our most silent processes still go forward by its aid. This dependence of thought on expression is also well illustrated in the education of mutes. "Though the deaf-and-dumb prove clearly to us that a man may have human thought without being able to speak, they by no means prove that he can think without any means of physical expression. . . . Herein lies the necessity of utterance, the representation of thought. Thought is not even present to the thinker till he has set it forth out of himself. . . . The deaf-and-dumb gesticulate as they think. Laura Bridgman's fingers worked, making the initial movements for letters of the finger-alphabet, not only during her waking thoughts but even in her dreams. . . . Heinicke gives a description of the results of his teaching his pupils to articulate, their delight at being able to communicate their ideas in a new way, and the increased intelligence which appeared in the expression of their faces. . . . The teachers of Laura Bridgman used to restrain her from making inarticulate sounds, but she felt a great desire to make them, and would sometimes shut herself up and 'indulge herself in a surfeit of sounds.' But this vocal faculty of hers was chiefly exercised in giving what may be called name-sounds to persons whom she knew, and which she would make when the persons to whom she had given them came near her, or when she wanted to find them, or even when she was thinking of them. She had made as many as fifty or sixty of these name-sounds."[1]

These cases indicate the aid which the mind immediately receives from any method of expression, and the consequent pleasure it takes in it.

We are also to bear in mind the greater fatigue which attends on thought when it receives full, vocal utterance, as in oratory. The accompanying activity of the nerves and organs of articulation with the necessity of continuous and rapid expression make the fatigue very great.

This labor is also much increased if the subject discoursed on is one whose vocabulary we have not fully mastered, or if the discussion is carried on in a language with which we are not perfectly familiar.

On the other hand, an exact but familiar process, as the multiplication of large numbers, is much more trying if we are compelled to carry it on mentally, and are not allowed visible counters. In this case the steps are no more difficult, but the difficulty of retaining them is greatly increased.

Mere reverie, in which the transitions are very loose, is restful rather than fatiguing.

The power to utter words by rote, into which complete memory is constantly passing, is plainly acquired by a nervous and muscular training. A memory which easily lays hold of an idea, but retains with difficulty the precise words in which it is stated, is doubtless to be explained by diversity in the cerebral conditions of language; as much as is hesitancy in speech as contrasted with volubility. Memory is evidently much modified by the fact that it so often involves the physical condition of expression.

If we allow an exact correspondence between cerebral condition and pure thought, we confound the distinction between instinct and reason. Instinct is plainly characterized by a direct connection of external stimuli with appropriate actions; the transition being, however, more or less protracted, and united with the ordinary variable experiences of life. Reason, under the view now combated, would be simply an extension of instinct, whereas it manifests itself not only as a new combination of powers, but also as one that is constantly setting instinct aside and reducing it to its lowest terms.

---

[1] "Early History of Mankind," pp. 67-74.

This theory of an exact correspondence between cerebral states and rational activity makes no sufficient and no plausible provision for the growth of rational powers. Cerebral states and cerebral actions are not inexhaustible. If a distinct combination is demanded by each distinct thought, and if memory requires the preservation of these combinations, the capacity of the brain would be steadily exhausted by its development, and we should experience in reason, as we do experience in instinct, limits to mental unfolding. So small a substance as the brain cannot, in its molecular states, be the counterpart of the entire universe in all the actual and possible relations of its parts. There must be some limit to the discursus of reason if each thought appropriates a definite portion of a limited power. The theory is unreasonably complicated, and in that degree improbable. It would also imply increased difficulty in the acquisition of mental power, when the facts disclose increased ease. Nor is it any relief to this embarrassment to say that the special senses, like the eye, give the mind very complex impressions by an equally complex organic state. The image of a landscape is displaced by each succeeding image. The eye is a specialized organ that has been developed to its present power by stages of growth that date back almost to the beginning of animal life, and yet its maximum power is represented in the reproduction of a single landscape, with very great limitation of distinctness of vision beyond the immediate centre of observation. The method and degree of reproduction in the eye and the ear give no color of plausibility, but the reverse rather, to the supposition that the cerebrum has in its molecular action an exhaustless representative and retentive power both in the regions of imagination and of abstract thought.

Mathematical truth and all exact knowledge lead to the opposite conclusion. Cerebral states as physical effects can never be the precise counterparts of each other in different brains. No truth, therefore, dependent on such states could be absolute and universal. Some kind of color-blindness would sooner or later show itself in all directions.

The deductive reasons already referred to come in to confirm this conclusion of the relative independence of pure thought in an unmistakable way. No physical relation can be the equivalent of logical convictions; and no convictions can be merely physical effects. The two lines of law are not parallel, and cannot be made the counterparts of each other. The conditions of thought are not those of force.

We may then pass all strictly physical experience as indeed giving limits to liberty and sometimes limits crowding very close upon it, but limits that never abolish it as long as thought remains. We turn now to our intellectual experience in its relation to freedom.

Men start with a balance of powers and a bias of disposition which are not easily modified or resisted. This natural disposition is the result of primitive passions and tastes that are stubborn facts by no means to be wiped out by a simple choice, nor indeed altogether to be rooted out by the most faithful and continuous effort. A portion of these proclivities may be attributed to physical inheritance, and a portion to original endowment. For our present purpose we need not strive to settle the balance between them, or even stop to enforce the existence of the second constituent. The position of the individual in reference to liberty is not much altered whether his first make-up comes to him by descent or by gift, or by a combination of the two. The stubbornness of these first tendencies experience clearly records. Those who have the training of children attach great importance to parentage and antecedents. Even in the earliest instruction these forces make themselves felt. The parent and the teacher are constantly aware in the same household of diversities of temperaments and tastes as fundamental considerations in discipline. It is true that much more can be done in shaping these forces early in life than later in life, but they can at no time be overlooked, and will often undo unskilful and even skilful labor in a sudden, resentful way.

It is also to be remembered that the moral inheritance of early surroundings and discipline so adds itself to, and incorporates itself with, primitive endowments as to be practically inseparable from them. By the time a young man begins to come within the range of his own personal freedom a composite stream of strong currents has him in hand. He need not lose time to inquire how he came by his inclinations, whether by native endowment, by physical inheritance, or by direct instruction; to guide and shape these energies, already realized in volume and direction, becomes his sufficient labor. The limitations of liberty are, therefore, very obvious and very great. They are allied to those of a gunner whose position and piece are given him. Said an active boy in answer to the complaints of his sluggish companion, "I do not walk so fast on purpose, I cannot help it."

If we look at the limitations of liberty in reference to the immediate actions that are to follow them, we may regard freedom as not having much to do with the ordering of life. Indeed, hasty reasoners often come to this conclusion.

A restriction closely concurrent with this of primitive disposition is that of habit. We all become increasingly aware of this restraint as we advance. We are not simply hampered by physical habits, but by intellectual ones also. The lines of thought we have taken up we pursue with increasing ease, but we are at the same time more and more reluctant to accept new ones. In youth we were adepts in mathematics or quick in languages; in middle life we discover we have much narrowed these powers by disuse. We have passed the point of indifference in reference to any class of attainments, and find them all positively easy or positively hard.

The convictions we have reached, especially those touching action and character, personal, social, and religious, though they themselves may have grown up in the exercise of liberty, are still limitations upon it. Especially is this true if a dogmatic spirit enters into them and we regard our opinions as finalities.

What Langfrey says of Napoleon is capable of a much wider application. He is speaking of wilfulness—which is really the want of well-ordered will—as united with very great intellectual powers. "The studied frenzy of a calculating mind is without remedy, because it does not depend on a sentiment, but on the very form of the intellect itself." This is true of all mental activity in proportion as it becomes deep and narrow. The life flows on in it as a river in a cañon, not merely beyond flexion, but for the most part beyond observation. A dogmatic intellect does not simply open before us one way, it systematically closes up all other ways. Dogmatism is a universal loss of liberty, and most of all in the inner life of the mind.

The remoteness of primary principles from the truths which flow from them leads to the same result. Most of the discussion by which the current of empirical philosophy is resisted in our day goes for little or nothing. It lies far out among marginal truths, and can find no acceptance with minds adversely disposed, and rarely leads to a fundamental renovation of thought. A boy sits upon the bank of a stream and gives his slight boat an impulse up the current; it soon returns to him, because the water flows in the opposite direction. The tidal movement of many minds is something not often comprehended, difficult to be resisted, and hard to be overcome. While the questions involved are questions of reason, the questions are very many, and the reasons very many, and are arrayed like armies. Single men, or single regiments of men, can no longer wage successful war.

Another restraint which overtakes freedom in its unfolding is that which arises from the accumulating force of feelings and of social relations. It is thought that the minds of women are less open to the force of reason than those of men. So far as the assertion is true, it is largely due to the emotional energy which characterizes them. This medium of thought refracts and colors the light on all personal topics, till a presentation is insensibly reached that suits the temper of the inquirer. Light is full of all colors, and will yield them all according to our analyzing prism. Wise men find that in dealing with the foibles of others they must not expect to remove them, but rather to accommodate themselves to them. Friends that undertake thoroughly to correct each other will soon reach aversion. Refractions that belong to the very atmosphere of the mind itself must be patiently borne. It is far easier for those who see these disturbances of vision in others to endure them than for those who suffer under them without recognition to remove them.

Not only are the feelings themselves very persistent forces, all our social relations become objective provocations to them, renewing them constantly and with great energy. As we interpret society to-day we interpret it to-morrow; and it acts on us vigorously to perpetuate ruling impressions. Hence it is not our own emotional atmosphere simply, but the atmosphere of the world we live in, that is unbraiding the light for us, and casting sombre or brilliant colors on the objects about us. To these physical and intellectual restrictions are to be added secondary ones which arise from their interaction. Disease, fatigue, old age, success, failure, predispose the mind to certain judgments which are not easily cast off. The unsuccessful man becomes untrustworthy in his opinions.

We care not to trace these limitations further, but wish rather to inquire how they leave the problem of liberty.

So profoundly are some minds impressed with these subtile and overwhelming influences that human liberty sinks out of all high estimate.

Life seems but a painful beating of the waves of the ocean by a swimmer who must ultimately sink. Constraining forces are of the most pervasive and insinuating order; they are often nearest us when we think least of them, and bind us most when we seem to ourselves most free.

Accumulative impressions, like those now brought forward, require corresponding care in the search for compensatory considerations or they quite confound the thoughts. We are too much accustomed to think of liberty as the immediate casting off of restraint, and as efficient, therefore, in the degree in which this is accomplished. This is far from the truth. The value of liberty lies in its power to work under and with invariable and permanent forces. If liberty involved mobility simply, it would lose its possessions as fast as it gained them. The air is mobile, and for that reason its distribution of parts has little interest. We can carve nothing out of it and record nothing on it. Rocks are comparatively immobile, and immediately they become material in many forms of work, while their distribution is an important fact. If results followed on after vagrant wishes, choice would gain apparent power, but would suffer immense loss. The thing done would be as quickly undone, and the clash of choices would be as idle as the collisions of winds. Indeed, there can be but one Aladdin with his magic lamp. He alone must be left to act on things fixed and permanent for all but himself. A pair of them would subvert the world, become spirits with invulnerable bodies who could settle nothing in conflict.

The resistance which surrounding conditions offer to liberty represents the strength and tenacity of the material at the service of the mind, and is a question simply of the right degree. If the resistance is slight, the gains are slight; if the resistance is great, the labor must be great, but so also may be the results.

Now the individual and the race encounter in the exercise of freedom two lines of resistance: that offered by matter and that offered by the mind itself. The first of these is, in the strictest sense, the coherence and firmness of material. It is the office of mind, availing itself of inorganic and organic laws, to permeate matter and hold it to fixed and extended service. The most complete illustration of this is the human body, penetrated in every part with nerves of sensation and action, and so becoming not itself merely an arena of mind, but a powerful instrument of mind, operating by means of it freely in the physical world. To complete this mastery of mind over matter, to establish it as a settled intellectual dynasty, is what wise men are about in the world.

Now material laws are sufficiently pliant to thought to make this labor possible, and sufficiently resistful to make the gains of infinite worth when secured. Men soon learn that mere vaporing accomplishes nothing, but they also learn that skill and patience are surprisingly effective.

The stream does not flow like water, but it flows like a glacier. It can hardly be said that the physical material offered the hand of man is so intractable as to waste liberty; it has rather that degree of tractability which stores liberty.

But the second line of resistance is one of equal interest—the restraints which the laws of mind offer to mind. It has been found a universal social law, that if freedom is to grow, wisdom and virtue must grow with it. It is the same truth we are contemplating in the limitations of liberty within the mind itself. The agency slips away from the agent unless the agent masters himself also. While man is held back from the control of the physical world by laws within that world, he is equally held back by laws within himself, and the two sets of laws must be handled together and mastered together; otherwise the movement will soon find arrest. When the mind stagnates within itself its external force is lost also.

What do the limitations of freedom which we have found arising within the mind itself signify but this, that the growing points of intelligence and virtue must be carefully maintained? If these are lost, freedom is lost. The mind settles down under fixed opinions, becomes subject to an unbroken sequence of feelings, and accepts the social sentiments that prevail about it.

The one condition of freedom is to maintain unimpaired intellectual activity in all directions of action. This alters the horizon, varies the grounds of effort, breaks up and subordinates habit, and holds in arrest the aggression of other minds. The mind that ceases on any topic—for instance, on that of religion—from fresh intellectual activity has turned down the light by which it should be guided, and it is only fortunate, therefore, that it begins to fall into a calculable routine of action, that it does not go plunging on with nothing to direct it. When the buds of a tree cease to shoot the leaves may come and go for a while with the seasons, but the constructive life is arrested. The limitations of liberty do not show the power of man to be nothing, but only that there are moments, places, and ways of its skilful application.

While spontaneity exercised in thought (and in this way productive of light) is the condition of continuous freedom, the condition of the condition is virtue, feelings that turn on and subordinate themselves to the truth. If the intellectual movement is not honest in its incipiency it shortly fails of thoroughness. It is not light alone that is the efficient constructive force in the green tissue of leaves; it is light and heat. It is not truth alone that maintains the vitality of growing points in the mind, but truth and feeling.

Feelings that are alien to the facts soon alter our conception of the facts, and so the facts shake us off and escape us. We are not masters, because we have lost the true word of command.

Personal liberty is like liberty in the state. Its safe possession is one of profound obedience to deeply implanted principles. It is not, therefore, the less liberty or of less worth. On the one side the very condition of strength is a struggle with domineering tendencies, and on the other their steadfast government under new conditions. Liberty is a movement from law to law, each succeeding law being higher, broader, more inclusive, and more fortunate.

The value of liberty is that it enables the mind freely to conform to law. The liberty that does not pass instantly into law is like the seed that is not sown in the soil. It abides alone. Liberty that confines itself to its narrow field, that is content to knit skilfully together the past and the future at the one plastic point, the present, is not weak, it is well-nigh omnipotent. It only requires long times and large spaces in which to unroll its power; it merely calls for material of every order and the union of every law by which to record its work. There is no reason in any limitation of liberty why, under the laws of inheritance, man should not in time walk the earth with the bounding life of an archangel, govern it with the strength of an archangel, and take home its thoughts and feelings to the pure and serene experience of an archangel.

The one law of this progress is continuous intelligence and virtue.

THE SPENCERIAN PHILOSOPHY

A MISINTERPRETATION OF THE DOCTRINE OF THE CORRELATION OF FORCES.

[A Lecture delivered before the Summer School of Christian Philosophy, 19th July, 1882.]

BY MR. S. H. WILDER, OF NEW YORK.

IT has frequently been said of late that materialism has passed its climax and is on the decline; but it is a noticeable fact that those theistic writers who find comfort in the assertion forget to mention any positive reason for its decline; seeming to think it a sentimental predilection rather than a rational system, which comes and goes without giving any strict logical account of itself; instead of a pernicious error which, if their own principles are true, they should be prepared to meet upon the threshold with a positive scientific refutation. It is often enough said that theological and scientific truths are equally God's truth, and cannot therefore contradict each other; and that there must be some mistake in the attempt to supplant theology by science; inasmuch as the higher faculties and aspirations of man, with which the one has to do, are as stubborn facts as those of the material world, with which the other is concerned; but the seeming contradiction is admitted, while we are neither furnished with any clear statement of the precise nature of the difficulty, nor is it explained how the contradiction may be reconciled; and we are still left to content ourselves with believing that men are losing interest in the new views, not so much because discussion has brought new objections to light, as that the tide of feeling has taken a different turn.

Meantime however, the materialists continue to assert the validity of their position as persistently as ever; and by adroitly pressing their views in the name of science, manage to impart to them a formidable appearance of authority which they do not in fact possess. But it seems never to be realized by their opponents, that the truth or falsity of materialism depends upon certain well defined principles, upon a due consideration of which it may be positively vindicated if true, or positively refuted if false. The entire discussion seems to be conducted on their part upon the supposition that no definite and certain conclusion of the argument can be reached; and that we can hope for nothing more decisive than a drawn battle, if, indeed, our convictions upon the subject are at best anything more than the result of a balancing of probabilities, influenced to an important extent by our predilections, which, as they make the probabilities seem to lean this way or that, make materialists or the contrary of us.

Such a state of things is the result, not so much of the difficulties inherent in the case, as of inattention to the principles underlying the discussion. Theologians have been afraid of seeming to oppose science, and have been so impressed by the air of superior wisdom assumed by its devotees, that they have not had the courage to sharply question any position, whatever might be its character, which they might see fit to advance. They have sought rather to conduct the discussion upon metaphysical principles, and thus to confine it to their own familiar ground. "Leave science to the scientists" (they have been accustomed to say), "and let us stick to questions which we understand." Or, if they have studied science, it has been upon the supposition that it consists mainly of a knowledge of facts. But it has been pertinently remarked of the so-called science which assumes to antagonize theology, that it consists of certain scientific facts plus a materialistic interpretation of them ; and it is more than doubtful whether theologians have not attended, not too much to the facts, but too little to the principles upon which they are to be interpreted.

The aim of materialism is to destroy supernatural religion, by substituting a mechanical for a spiritual interpretation of nature. Upon the discovery of the correlation of forces, its adherents thought that they saw in that mysterious network of physical forces which it reveals to us, manifesting its ceaseless round of transformations in every physical change, a final disproof of the spiritual nature of man. If the facts of so-called spiritual existence could be explained by the spontaneous interaction of mechanical forces, and there were no such thing as spirit in man, then how could he be allied to "God who is a spirit?" Or, how could there be any reason for believing in a spiritual Creator and Governor of the world? And if we could no longer believe in God, how could there be any Divine government, any Providence, or Revelation, or Incarnation, or, in fine, any supernatural religion?

But the attempt was to decide the case upon an insufficient view of the facts; and so they were led into proclaiming a victory which still remains to be achieved; and making haste to invest their supposed new ally with wonderful attributes which existed only in imagination, they asserted its invincible strength with so much assurance that theists were taken off their guard and instead of boldly grappling with the subject for themselves, were overborne by the noisy din into adopting the illegitimate assumptions of their opponents upon trust. As a consequence, we sometimes hear from theologians the quite gratuitous admission that science is making rapid progress toward the establishment of certain conclusions regarding the capacities of matter, which, if we examine them, are as much opposed to science as they are to theology itself. Some, again, have sought relief for what seemed to them their beleaguered cause, by attempting to weaken the force of correlation, by disparaging its proofs; as if to postpone as long as might be a catastrophe which they could see no way wholly to avert; while others have consoled themselves by quoting from Prof. Tyndall or Dubois Reymond to the effect that, although science everywhere points to the truth of materialism, we are still compelled to withhold our belief from the sheer impossibility of understanding how the vibrations of material particles can be transmuted into thought; and, again, others have sought, with Mr. Martineau and Prof. Bowen, to rescue teleology and spiritual causes from the jaws of correlation by finding the origin of force in will; thus seeking to make force an attribute of spirit and a basis of spiritual causation.

But the doctrine of correlation, when clearly understood, is neither more nor less than the doctrine of the equality of cause and effect, expressed in the language of modern science—a doctrine which never had any harm in it before; then why should we fear it now? Neither is it much to the credit of those learned professors that they do not see from the doctrine of correlation itself that it is not ignorance, as they intimate, but knowledge, which stands in the way of materialism; and that we reject it, not because we are unable to understand how the implied transformation of motion into thought takes place, but for the far more satisfactory reason that, from a clear knowledge of the facts, we are able to assert that no such transformation does take place.

But Mr. Martineau seems to forget that any theory, to be useful, must take the facts into account; and that whatever we know of causation must in the nature of the case be based upon our own experience as causes. Any true theory of causation must explain the facts of human causation. But Mr. Martineau sets out to reconcile the spiritual theory with correlation, by making force to be a product of will, thus denying the constancy of the sum of force, without which correlation would be no more than an empty name. And the same assumption is also opposed to experience, since no one supposes that he opens a window, or shuts a door, or moves a chair, or goes about from place to place, by the mere exertion of his will; neither would it agree with our experience to say that the ability of a man to lift a stone, is in proportion to the strength of his will, rather than of his muscles, all of which is implied in Mr. Martineau's theory. Both correlation and experience go to show that our bodily strength has only an indirect connection with the will, and that its source is not in the will, but in the muscles. But again, the theory would rescue spiritual causation by subverting it along with correlation, and establishing something radically unlike them in their stead. Our experience shows that our bodily strength is derived from food and air, but that we are nevertheless the causes of our own acts by the exercise of the true spiritual functions of thought and will; not by appearing in the character of physical forces, nor by generating the forces with which we act, as Mr. Martineau would represent, but by using forces which we acquire from without. Moreover, Mr. Martineau would escape from the fancied materialism of correlation, by adopting the fanciful theory of the mechanical evolutionists, that the universe as it exists to-day may be only the necessary outcome of capacities with which matter was endowed at its creation—the identical device by which Mr. Spencer assumes to have reconciled religion with science by putting an unknown and unknowable substratum of phenomena so infinitely far into the background of the universe as to be to all intents and purposes outside of it. But since for reasons involved in the law of correlation itself the theory could not be true, to adopt it is to go over to the enemy just at the point where he legitimately falls into our hands.

Such are some of the fanciful devices which have been resorted to, as the means of escaping an imaginary danger. But those who adopt them, forget what the newly acquired resources of materialism really are. Correlation shows by a legitimate course of reasoning from the equality of cause and effect, that no motion of matter takes place except at the expense of some preceding motion; and that no motion ceases except by giving rise to some subsequent motion; the antecedent motion being in every case the quantitative equivalent of its consequent motion, and *vice versa*; a simple truth which menaces neither religion nor science. But having proven so much, the materialists seek by a trick of verbal thaumaturgy to translate *motion* into *phenomenon*, and then to go on with the argument as if what they prove with regard to the one, were by consequence true of the other; as if every event had its origin by a transformation out of some preceding event, or as if any orderly event could be rationally explained, as the quantitative product of any number of antecedent motions. They fall into the mistake, along with the philosophers, of thinking that since the world may be included in a certain sense under the two categories of events, and things, and since the one may always be resolved into matter, and the other into motions of matter, that therefore the whole world may be described in terms of matter and motion; and so with matter as the subject of motion, and force as the cause of motion, they seem to themselves to have all the materials requisite for the building of a world. But they leave out one of the factors, which has a more vital connection with any true solution of philosophical problems than is sometimes apprehended. The office of mind as a moving power in nature cannot be ignored by philosophy with impunity.

The mechanical interpretation of things in which materialism consists, has received its most systematic development at the hands of Mr. Spencer; who, in his hypothesis of evolution, starting with the persistence of force as the assumed unifying principle of nature, seeks to interpret every order of phenomena, from those of inorganic matter, to the subtlest and most recondite manifestations of human intelligence, "in terms of matter, motion and force." The attempted interpretation has not been accomplished, nor has any real progress been made towards its accomplishment, for reasons which will by and by be shown. But the attempt has been made, and to make such an attempt is to espouse materialism. Some theologians who approach the subject wholly from the metaphysical point of view are disposed to deny this, and even to credit Mr. Spencer with having performed an important service for theology, by furnishing it with a sound philosophical basis in his unknowable cause, a conception which they thoughtlessly endeavor to identify with God. Such writers accept Mr. Spencer's scheme as being in fact, as well as in name, a scientific philosophy, and think that as such it must be taken as the probable final dictum of science upon the fundamental questions of philosophy. It will not do, then, they think, to identify it with materialism, lest we destroy the foundations of religion, and plant ourselves at once on atheistic ground. But if any philosopher doubts the materialism of Mr. Spencer's system, let him, after making a careful study of its development from its fundamental postulate, the persistence of force, as the case is stated by Mr. Spencer in his chapter on "The Transformation and Equivalence of Forces," in "First Principles," try the experiment of taking out of it the distinguishing principle of materialism—the mechanical exposition of psychical phenomena which is there dwelt upon—and let him then consider how much and what there is left with which to work out a system of philosophy; and if, after faithfully trying the experiment, he has anything further to say as to the non-materialism of Mr. Spencer's philosophy, he will be entitled to a respectful hearing. The trouble, however, is not so much the lack of materialism in Mr. Spencer's system as the lack of definite thinking on the part of its critics. That materialism is in fact inherent in Mr. Spencer's scheme of evolution, and has neither been introduced into it by his own inadvertence, nor by the misunderstanding of his opponents, will be best understood by attending to his own exposition of the subject in some such passages as the following:

"The sole truth which transcends experience by underlying it is thus the persistence of force. This being the basis of experience, must be the basis of any scientific organization of experiences. To this an ultimate analysis brings us down, and on this a rational synthesis must be built up."—"First Principles," 192.

Mr. Spencer maintains, then, that evolution, as embracing every object of our knowledge, is based solely upon the persistence of force, and that neither science nor philosophy can make an affirmation upon any subject which does not depend for its truth upon this fundamental datum. And this is equally true, whether we speak of the cruder forms of inorganic existence or of the more and more complex forms of vegetable and animal life, or of the human soul with its infinite possibilities; or whether we go back to the primary elements of matter to consider the profoundest questions concerning their origin, or that of the wonderful properties by the possession of which they are capable of entering into the forms and combinations in which we find them. Philosophy must satisfy our inquiries concerning the origin of matter, and it must also explain the origin of its diverse properties; how there came to be more than sixty kinds of matter, and how, for example, one of these kinds of matter called iron came to possess that strange combination of properties by which, being combined with oxygen, it is a brittle rock; or, being freed from oxygen and combined with carbon, it becomes a fusible metal, to be cast in moulds into an infinity of forms of use or beauty; or when reduced to a state of comparative purity, is softened, but not fused, by heat, and can be forged and welded, rolled into bars, or drawn into wire; and when recombined with some of the carbon from which it was just now separated, it becomes steel, to be annealed or hardened, so that if we cut a bar in two, the one part may be used to cut the other ; or how the quantity of matter in the earth, as a whole, and the resulting intensity of gravitation came to bear the practicable relation which it does to the strength of organic matter, whereby it is rendered possible for living beings to stand erect and walk or fly in the air, instead of the impracticable state of things in the planet Jupiter, in which a man would weigh a ton and could scarcely exist for an hour, much less walk or fly. In the eye of Mr. Spencer's system such things must be explained not only upon natural principles without the intervention of intelligent design, but it must be shown how they necessarily result from the persistence of force. And not only is intelligence discarded as an explanation of the wonders of the material world, which have heretofore been explained as the work of an intelligent cause, but intelligence itself must also be explained upon the same mechanical principles. The system does not tolerate the notion that communities or nations are moulded by the influence, either intellectual or moral, of particular men, but all is the work of inexorable unvarying law, and this farther implies that men themselves do not act intelligently as they choose in view of motives, but only as they are impelled by a mechanical environment.

" Given the persistence of force, and given the various derivative laws of force, and there has to be shown not only how the various existences of the inorganic world necessarily exhibit the traits they do, but how there necessarily result the far more numerous and involved traits exhibited by organic and superorganic existences; how an organism is evolved? what is the genesis of human intelligence? whence social progress arises?"—" First Principles," 555.

An indispensable pre-requisite to the accomplishment of the task here laid upon evolution would evidently be to show some tendency in persisting force to confer upon the various kinds of matter the particular properties of which we find each of them to be possessed, and a tendency farther to confer upon each, such properties as best adapt it to the uses of an intelligent being like man. For the crowning wonder is not that things are adapted to the wants of man directly as fruits are adapted for food, but that most things are only adapted to be wrought upon by man's intelligence in order to make them useful to him, as, for example, the ores of the metals and the wood of trees or the bones and skins of animals, the most observable feature of the case being the total inapplicability of the alleged cause to the production of the pretended effects.

It is therefore a physical, and not a metaphysical, interpretation of nature which is proposed. Mr. Spencer's system has usually been assailed upon the contrary supposition, and it is a sort of fashion of the hour to speak of it as if its chief offence, were the insufficient foundation which it affords for a theory of knowledge or of morals or of social science ; that it is forced to build upon sensationalism or empiricism, or that having little or no capacity to deal with spiritual truths it affects to ignore them; that it is agnostic. All of these things may be consequences more or less directly involved in materialistic evolution, and as such may be very serious objections to the theory which involves them, but they are not its foundations, and if its foundations should prove in the end to be impregnable, we must accept the system whether we like its consequences or not; but if, on the other hand, a more careful scrutiny should disclose the weakness of its foundations, and their inapplicability to the task which is imposed upon them, we shall at once be rid of the system, consequences and all.

The chief difficulty with mechanical evolution is not its agnosticism, or sensationalism or empiricism, but its attempted substitution of material for spiritual causation; and this will appear upon some farther attention to Mr. Spencer's exposition, a farther development of which is made as follows :

"Every antecedent mode of the unknowable must have an invariable connection qualitative, and quantitative, with that mode of the unknowable which we call its consequent," p. 193; or, again, "Everywhere throughout the cosmos this truth must invariably hold. Every successive change or group of changes going on in it must be due to forces affiliable on the like or unlike forces previously existing, while from the forces exhibited in such change or changes must be derived others more or less transformed. And besides recognizing this necessary linking of the forces at any time manifested with those preceding and succeeding them, we must recognize the amounts of these forces as determinate, as producing such and such quantities of results, and as necessarily limited to those quantities."—"First Principles," p. 202.

If we substitute for Mr. Spencer's cabalistic expression, "mode of the unknowable," the simple terms *motion* of *matter* in the first of these passages, and premise as to the second of them that "changes and groups of changes" depend upon the action of physical forces, but are not originated by them, they may be accepted as a legitimate and satisfactory statement of the doctrine of the correlation of forces in its bearing upon the facts of nature; and they would mean simply that in the absence of physical forces there would be no such thing as motions of matter, and no physical change; which would be like saying that, in the absence of building material, there would be no houses, or that if there were no iron or steel or brass, there would be no railroads or locomotives. But Mr. Spencer does not so restrict his meaning. He would be understood rather as saying that the physical forces institute their own activities, and that the origin of an event is sufficiently explained when we discover its antecedent forces; as if he had said that the raw material fashions itself into the house. As a statement of the relation of the physical forces to each other, the passages are unobjectionable, but as an explanation of the course of events in the broad sense contemplated in philosophy, they are not simply objectionable, but intolerable. But this attribution of an ultimate causality to physical forces acting under correlation is the distinguishing principle of Mr. Spencer's system, the strange neglect of which by his critics has fatally vitiated the current view of his teachings. It is worth while, therefore, to make some farther examination into the nature of the fallacy involved.

When Mr. Spencer undertakes to explain all the phenomena of the universe "in terms of matter, motion and force" according to the terms of the doctrine of the correlation of forces, he is required by the terms of the proposition to show that every event comes about by the quantitative transformation of antecedent into consequent motion—a fact which he fully recognizes in the passages now under consideration. In his exposition, "Every antecedent mode of the unknowable must have an *invariable* connection, *quantitative* and *qualitative*, with that mode of the unknowable which we call its consequent." If, for example, one billiard ball strikes another, the resulting motion of the second is derived from that of the first by such a transformation of force as the proposition implies; and the first ball loses as much motion as the second acquires; and the antecedent motion imparted by the first, is the exact equivalent of the consequent motion acquired by the second. If no other relation between antecedent and consequent could be shown than this simple relation of cause and effect, Mr. Spencer would be justified in claiming for it the universality which he does as an explanation of every order of phenomena. But it is not the only relation which can be shown, and the connection between antecedent and consequent is by no means invariably either qualitative or quantitative, as a farther example will show. A certain force is expended in pulling the trigger of a gun, as a consequence of which the powder is exploded, and the bullet takes its flight through the air and into the target. The pulling of the trigger is the true antecedent or cause of the explosion, but it is not connected with it through the law of correlation, inasmuch as the force expended in pulling the trigger is not reproduced in that of the flying missile. The pulling of the trigger is accomplished by means of a transformation of force; it is then under the law of correlation. The bullet also is driven from the gun by another transformation of force, and it, too, is under correlation. But these two series of transformations of force, which in no sense commingle with each other under correlation, do nevertheless participate in one common result, the flight of the bullet, their joint action being accomplished, not by the law of correlation, but by the intelligence and will of the gunner, of which these two otherwise unrelated series of correlated forces are made the passive instruments. While therefore correlation affords some explanation of the rudimentary motions which enter into an event, its function is purely provisional, and all which it enables us to declare is that, if a given modicum of motion takes place, it can only do so as the effect of some preceding motion of equal amount, and that it must continue until diminished or exhausted in giving rise to other motion; but it does not show why or how the motion happens to take place, nor does it give us any account of the event as a whole, as of the firing of the gun, in which motions which have no quantitative relation to each other, do nevertheless stand in the relation of antecedent and consequent; and this can only be explained by calling in that co-ordinating power of mind which Mr. Spencer's system seeks to ignore. But mind with its activities is not *qualitatively* related to physical forces; and since we find that physical antecedents do not invariably bear the asserted quantitative relation to their consequents, and that mind, which establishes so important a part of the existing relations between material things by a kind of action which is not quantitatively measurable, and is not therefore amenable to correlation, is not even qualitatively related to the things whose relations to each other it establishes, it follows that neither part of Mr. Spencer's proposition can be established, and that neither a qualitative nor a quantitative relation invariably exists between antecedent and consequent.

But a philosophy which reduces all phenomena to a single unifying principle must have something to say about the phenomena of mind. Mr. Spencer tells us accordingly, in pursuance of his prescribed formula, that "All impressions from moment to moment made on our organs of sense stand in direct correlation with physical forces existing externally. The modes of consciousness called pressure, motion, sound, light, heat, are effects produced in us by agencies which as otherwise expended crush or fracture pieces of matter, generate vibrations in surrounding objects, cause chemical combinations, and reduce substances from a solid to a liquid form. Hence, if we regard the changes of relative position, of aggregation or of chemical state thus arising as being transformed manifestations of the agencies from which they arise, so must we regard the sensations which such agencies produce in us as new forms of the forces producing them. Any hesitation to admit that between the physical forces and the sensations there exists a correlation like that between the physical forces themselves, must disappear on remembering how the one correlation like the other is not qualitative only, but quantitative."—" First Principles," 212.

There is here asserted a positive direct transformation of physical motion into sensation, which implies a subsequent retransformation of sensation into physical motion. But it is also implied in correlation that the motion from which any given member of the correlated series is derived is the cause, of which the given member is the effect; while any subsequent motion to which the effect may give rise, and of which it thus becomes the cause, must be derived from it by a like transformation of force; and the explanation of things which correlation affords begins and ends with this series of transformations of antecedent into consequent motion. It follows therefore that when the sensations are introduced into the exposition, as they are here, as the rudimentary beginnings of thought, it is done for the purpose of showing that thought is neither more nor less than a link in the chain of mechanical cause and effect; and we are accordingly told that,

" Besides the correlation and equivalence between external physical forces and the mental forces generated by them in us under the form of sensations, there is a correlation and equivalence between sensations and those physical forces which in the shape of bodily actions result from them" (212); and again, "that the performance of any bodily action is the transformation of a certain amount of feeling into an equivalent amount of motion" (p. 507).

What is really meant by this has been but faintly realized, and it will be well for that reason to follow it into some of its immediate consequences. If, for example, we should say of a man that he breaks a stone, since we attribute the act ultimately to his mind, and since by the supposition mental are correlated with physical forces, what would be really meant by the assertion would be, that the action of his mind, which is transformed into the motion of the hammer, was very likely derived by a like transformation out of a feeling which was imparted to his mind by the reading of a book; and it is only by recognizing this invariable quantitative linking of the forces at any time manifested with those preceding and succeeding them, under the operation of this singular misunderstanding of a fundamental law, that we come to see by just what kind of an iron necessity we are compelled to merge all of the phenomena of so-called spirit in those of matter.

Another conclusion which necessarily follows from the principle in question is, that what we call the sense of the book, since it is reducible, like all the other phenomena of the universe, to matter and motion, is, like the primal elements of which it consists indestructible. And since it is in the sense of the book that the force resides by which it effects changes in the currents of our thoughts, it follows that if any copy of a book should be destroyed, the sense that is in it would not be lost, but would reappear in the shape of heat or some other motion.

Again, the letters of a book, like the meaning which they convey, are a social force, and as such have effected wonderful changes in the condition of men, and are no exception to the law, which embraces all forces whatsoever under its universal sway. And now,

"If we ask whence come those forces, from which, through the intermediation of the vital forces, the social forces arise, the answer is of course, as heretofore, the solar radiations. Based as the life of a society is on animal and vegetal products, and dependent as these animal and vegetal products are on the light and heat of the sun, it follows that the changes going on in societies are effects of forces having a common origin with those which produce all the other orders of changes which have been analyzed. Not only is the force expended by the horse harnessed to the plow and by the laborer guiding it derived from the same reservoir as is the force of the falling cataract and the roaring hurricane, but to this same reservoir are eventually traceable those subtler and more complex manifestations of force which humanity as socially embodied evolves. The assertion is a startling one, and by many will be thought ludicrous, but it is an unavoidable deduction, which cannot here be passed over." (219).

Taken in the sense in which it is obviously true, the assertion is too much a commonplace to be either ludicrous or startling, but being taken as it is intended, as meaning that phenomena have no other cause than the forces appearing in them, it becomes startlingly ludicrous, as we find by applying it to the book, or by speaking of its power to move the mind in the formula of Mr. Spencer as arising from its "contained motion."

But we have Mr. Spencer's assurance that not only is an emotion or feeling the quantitative product of whatever physical force may have given rise to it, but whatever physical result may follow in the shape of a bodily action upon an emotion or feeling must be explained as the quantitative product of the antecedent emotion or feeling, in the same sense as one motion is the quantitative product of another motion; since, as we have seen, the alleged correlation between the physical forces and the sensations must be "like that between the physical forces themselves," in which the relation between antecedent and consequent is "not qualitative only, but quantitative."

This is what should be true upon Mr. Spencer's principles, and it is what must be true to save his system from disaster. But is it true? If so, the fact will appear upon applying the principle to any of the facts of our common experience. Let us put it to this practical test. It asserts in substance that when a fly alights upon my forehead, and from a feeling of irritation at the unwelcome intrusion, I aim a blow of my hand at the spot, with a force it may be, many times greater in amount than would be exerted by the fly in an entire day, the force of the blow is exactly equal to that of the tiny impact which gave rise to it. For does not Mr. Spencer directly assert a quantitative transformation of the little touch into the sensation, and of the sensation into the blow? And must not *every* antecedent mode of the unknowable, have an *invariable* connection, both *qualitative* and *quantitative*, with that mode of the unknowable which we call its consequent? But what are the facts? Mr. Spencer's theory would call upon us to believe that the strength manifested in our bodily actions comes from the external physical forces which act upon our senses, while as a matter of fact it has its source in the food we eat and the air we breathe, and is stored up in the muscles and tissue of the body, ready to answer the behests of the will; and the particular modicum of force concerned in the blow was unlocked and set at work by a mandate transmitted from my brain by way of a nerve. Such at least is the theory of Mayer, which Prof. Tyndall tells us is now universally held by men of science, as it has probably been held since the world began, by every man who knew that he must eat and breathe in order to be strong. The strength is set at work by the nervous impulse, just as the powder is exploded by pulling the trigger of the gun, and there is, contrary to Mr. Spencer's assertion, neither transformation nor equivalence in the case; but on the contrary, a fatal gap between antecedent and consequent, which correlation can never bridge over. And this is just what Mr. Spencer in substance confesses, when he says, in the farther development of the subject, that the immediate correlates of those violent bodily actions in which the crowd of ideas and the mass of feelings which an insult excites expend themselves, are not to be found in the sensations impressed on the eye or the ear by which the insult was conveyed; since the same words, otherwise arranged, would not have caused them. "The thing said," he explains, "bears to the mental action it excites much the same relation that the pulling of the trigger bears to the subsequent explosion—does not produce the force, but only liberates it." (215.)

Mr. Spencer sets out to establish a correlation between the physical forces and the sensations *like that between the physical forces themselves*—a quantitative transformation of antecedent sensation into consequent bodily action; and any doubt as to the existence of such a correlation was to "disappear on remembering that the one correlation like the other, is not qualitative only but quantitative." But he ends by confessing that the sensations do not produce the force, but only liberate it; the facts, that is to say, are the reverse of what his system requires them to be, and utterly irreconcilable with his assertions regarding them. The external forces which act upon the organs of sense do not even liberate the force concerned in the subsequent actions, but much less do they produce it. To confess that they do not produce it, is to yield the entire matter in dispute, and to seal the doom of mechanical evolution, by showing the impossibility of explaining psychical phenomena without a soul as the basis of them. Of the proposition which he set out to prove Mr. Spencer has said, "And since the persistence of force being a datum of consciousness cannot be denied, its *unavoidable corollary* must be accepted." It must be therefore that the necessities of evolution require some propositions to be accepted whether true or not.

But can it be that Mr. Spencer fails to perceive that an insult is not like a physical force taking effect upon a body of matter, and that it does not consist of words, but of the meaning which they convey; and that it does not take effect upon the body nor upon the nerves, but upon the mind? Does he not perceive that the insult does not release the force, but that it is set at work by the outraged mind, not as an effect of the insult, but in view of it?

As a fitting conclusion to such an effort to establish evolution upon a subversion of its principles, Mr. Spencer sums up his argument with the following still more definite statement of its bearing upon the nature and source of thought:

"Various classes of facts thus unite to prove that the law of metamorphosis which holds among the physical forces, holds equally between them and the mental forces. Those modes of the unknowable which we call heat, light, chemical affinity, &c., are alike transformable into each other, and into those modes of the unknowable which we distinguish as sensation, emotion, thought; these in their turns being directly or indirectly retransformable into the original shapes. That no idea or feeling arises, save as the result of some physical force expended in producing it, is fast becoming a commonplace of science; and whoever duly weighs the evidence will see, that nothing but an overwhelming bias in favor of a preconceived theory, can explain its non-acceptance. How this metamorphosis takes place—how a force existing as motion, heat, or light, can become a mode of consciousness—or how it is possible for ærial vibrations to generate the sensation we call sound, or for the forces liberated by chemical changes in the brain to give rise to emotion—these are mysteries which it is impossible to fathom. But they are not profounder mysteries than the transformations of the physical forces into each other." (p. 217.)

The correlation here asserted, as has been shown, is disproven by the very considerations which Mr. Spencer brings to its support; but a farther proof of its non-existence remains to be considered. It has been pointed out that in order to make out such a correlation, it would not be enough to show that certain physical manifestations attend the operations of the mind; but it must be shown that the mental activities are transformed manifestations of those physical agencies which are assumed to give rise to them; but the evidence would not be complete unless there could be shown a subsequent retransformation of the supposed mental activities into those physical changes to which they give rise. For it is to be remembered that the required correlation between mental and physical forces is to be *like that between the physical forces themselves*, in which the antecedent is transformed into the consequent, the cause into the effect, and the effect into a subsequent effect, and so on *ad infinitum;* and now if we make thought a member of the series, we must do it by finding physical consequents as well as antecedents. Mr. Spencer recognizes the necessity, and makes a show of meeting it by pointing to those flushes of heat and those impulsive bodily motions which attend or follow upon the more or less vivid impressions made by external agencies upon the organs of sense. But that these are not such consequents as the case demands, and that it is consequently only an empty show, is already clear from the immense disparity between antecedent and consequent in a familiar example, when nothing less than absolute equality is admissible by the terms of the proposition; and, again, by the absence of the implied transformation which Mr. Spencer confesses when he compares what really takes place to the firing of the gun, in which the antecedent pull is clearly *not* transformed into the consequent explosion.

But the results of mental action are not confined to the body, as is too often assumed. A large and most important part of our knowledge relates to material changes external to the body which, in the true and ultimate sense, are the work of thought; and if such changes are to be explained upon Mr. Spencer's principles, it must be in the prescribed way, by showing that they arise by transformation out of the thought which caused them. A peculiar advantage of such changes for the purposes of the argument is that they are completely within our knowledge, and we can reason about them with a reasonable assurance that we are in full possession of the facts. Curiously enough, a striking example of such a change having thought for its cause is the firing of a gun, which Mr. Spencer cites without perceiving that it destroys his case instead of supporting it. Correlation accounts for the quantity of each several motion concerned in it by a transformation out of an equal preceding motion, but it offers no explanation as to how each of these discrete motions comes to bear the part which it does in the concrete act, instead of appearing in some quite different connection or not appearing at all. But the same principle is illustrated by other examples.

When a locomotive moves a train of cars it is as much the act of the engineer as if it were done by the exertion of the immediate strength of his body; for when he adjusts the valves to turn on the steam, and make it run in the required direction and at the proper rate of speed, he sets the steam at work to do his bidding, just as in the other case he would summon to his aid the otherwise latent forces of his body. Yet no part of the strength with which he performs his part passes over into the motion of the train, which he causes, any more than the force exerted in pulling the trigger passes into the motion of the bullet; and it is not therefore the work of correlation, neither is it for the same reason the work of his body, but it is the work of his mind. For the mind is the cause of the bodily actions, not by furnishing the strength manifested in them from its own resources, but by using strength which was already present in the body in the same way as it uses the pent up steam as the motive power of the locomotive. What the locomotive seems to do, therefore, is the work of thought, while the force only does what it is constrained to do by the conditions imposed upon it by human intelligence. But if the bodily strength of the engineer by which he causes the motion of his engine does not pass over into the consequent motion, much less does the thought which lies back of it, and thought is not explained from the persistence of force, from the impossibility of connecting it by transformation with either antecedent or consequent in the physical series. Let thought be identified with the physical series in the manner which correlation prescribes, and Mr. Spencer's undertaking stands justified, but failing as he does to make out the required identification, his system falls to the ground from lack of any assignable connection with its alleged point of support.

But another aspect of the case remains to be considered. A great deal of disquietude and alarm have been felt in view of an alleged unanimity among men of science in adopting evolution. True, many thinking men, scientists, it may be, among them, have regarded the Darwinian theory as the ultimate type of evolution; but it is also true that many see, as Prof. Tyndall does, that any theory which, like that of Mr. Darwin, discards Divine agency in natural processes can find no rational stopping place this side of materialism; and that in any really comprehensive view of the case Darwinism is but a part of Mr. Spencer's all-embracing system. If there is such an unanimity of scientific belief as to compel, or even to justify, the adoption of evolution, it is important to know the fact, and the grounds upon which it rests; or if the alleged fact is only an assumption, it is equally important to know the reasons for so believing. With a view to gaining some light upon so important a point, let us attend briefly to some representative facts.

Mr. John Fiske is best known to the public by his writings upon the subject of evolution. If not himself a scientist, he has enjoyed the best of opportunities of becoming acquainted with the views of scientists, and is fully in accord with what is usually termed "the modern scientific spirit." He is also committed in the fullest sense to Mr. Spencer's principles, and has written an important work for the purpose of expounding those principles to the American public; and as a preparation for writing this work he is reputed to have spent a considerable time in the study of evolution under Mr. Spencer's immediate supervision. Naturally such a work, written after so thorough a preparation under the most favorable conditions, by a writer of distinguished ability, has been generally accepted as an authoritative exposition of Mr. Spencer's system, and it is not unlikely that very many of those who regard themselves as having yielded to a necessity of scientific thinking in adopting Mr. Spencer's conclusions have gained their knowledge of them mostly from Mr. Fiske's work. And why should they not? The "Outlines of Cosmic Philosophy" is a work which has passed a prolonged ordeal of criticism in reviews and periodicals of every grade at home and abroad, and no one, either friend or foe, has seemed to discover any reason why it should not be so accepted. It cannot be otherwise than fair, then, to expect to find in the writings of Mr. Fiske, if anywhere else than in those of Mr. Spencer, some clear evidence of the supposed necessity to discard theology and adopt evolution. But not only must we expect to find the thesis supported by direct proofs; we must also expect to find that indirect proof which is indispensable to a scientific system, a perfect agreement with Mr. Spencer and other evolutionists as to the principles of the system, and the reasons for adopting them. Nothing could well be more damaging to the scientific pretensions of a theory than a disagreement of its leading advocates upon such essential points; for if the masters disagree, how can their disciples be unanimous? What Mr. Spencer's views of the subject are we have heard him explain. Let us also hear from Mr. Fiske. In a review article which has been before the public for some two years, without receiving anything like the attention to which it is fairly entitled, the design of which is to convict a distinguished Monday lecturer of a very odious kind of "charlatanism," will be found the following passage:

"With Professor Huxley, as well as with Mr. Spencer, it is a fundamental proposition that psychical phenomena cannot possibly be interpreted in terms of matter and motion; and this proposition they have at various times set forth and defended, and what is still more to the purpose, have proved it. In the chapter on "Matter and Spirit" in my work on "Cosmic Philosophy" I have fully expounded this point, and have farther illustrated it in "The Unseen World." With the conclusions there set forth, the remark of Professor Tyndall thoroughly agrees, and it does so because all these expressions of opinion and all these arguments are part and parcel of a coherent system of anti-materialistic thought adopted by the English school of evolutionists."

Of the very singular relation in which such a declaration stands to the facts of the case, we are, so far as Mr. Spencer is concerned, in a good position to judge. Such passages as the following are a fair representation of the position of Professor Huxley, who says in one place: "I believe that we shall sooner or later arrive at a mechanical equivalent of consciousness, just as we have arrived at a mechanical equivalent of heat," and in another, "In truth the physiology of Descartes, like the modern physiology of which it anticipates the spirit, leads straight to materialism so far as that title is rightly applicable to the doctrine that we have no knowledge of thinking substance apart from extended substance, and that thought is as much a property of matter as motion is." (Essay on Descartes).

It would appear, then, in the view of Mr. Fiske to be a fundamental principle with Huxley and Spencer to deny a doctrine which they do not scruple to avow, and which they devoutly believe, and if any one not a partisan of evolution ventures to mention the fact of their belief in it, he commits an offense of which it is difficult for a philosopher to speak with moderation.

In another review article, Mr. Fiske gives us a formal refutation of materialism, which is in substance a re-statement of the two former expositions of the subject above referred to. This argument is based upon the following definition of materialism:

"From one point of view materialism may be characterized as a system of opinions based on the assumption that matter is the only real existence. On this view the phenomena of conscious intelligence are supposed to be explicable as momentary results of fleeting collocations of material particles, as when a discharge between two or more cells of gray cerebral matter is accompanied by what we call a thought," and this definition of materialism is presently contrasted with another as follows: "But there is another way of looking at materialism which makes it for a moment seem important, and which serves to explain, though not to justify, the alarm with which many excellent people contemplate the progress of modern science. A conspicuous characteristic of materialism is the endeavor to interpret mind as a *product*, as the transient result of a certain specific aggregate of matter."

Upon what principle these definitions are contrasted it is not easy to determine. Indeed, most people are likely to say that they are identical; and, strange as it may appear, this is Mr. Fiske's own view, as he shows when he arraigns each of them in turn at the bar of the Berkeleian psychology; which he does as to the first in the following remarks, which may be seen to have a certain queerish appositeness to some views which we heard expressed not long since by Mr. Spencer and Professor Huxley. "It requires but little effort to see that materialism as thus defined does not comport well with the most advanced philosophy of our time. Materialism of this sort has plenty of defenders no doubt, but not among those who are skilled in philosophy. The untrained thinker who believes that the group of phenomena constituting the table upon which he is writing, has an objective existence independent of consciousness, will probably find no difficulty in accepting this sort of materialism;" while of the other he says, "To a person familiar with post Berkeliean psychology it seems quite clear that no such interpretation can ever be made;" and in the same connection he adds, "It is intensely materialistic to speak of the table as if it had some objective existence independent of a cognizing mind; and yet in common parlance, we invariably allude to the table in terms which imply or suggest such an independent existence." And he farther remarks upon the same point in connection with the first definition, "Take away the cognizing mind, and the color, form, position, and hardness of the table, all the attributes, in short, which characterize it as matter, at once disappear. . . . . Apart from consciousness there are no such things as color form position or hardness, and there is no such thing as matter." From this it would appear to be the province of psychology to determine the nature and properties of matter, and we are expected to believe, in deference to psychology, that none of the objects in a room (the table, for example) has any existence except as it is held together in the cognizing mind—that is to say, it springs into existence as often as an observer enters, and becomes non-existent as soon as he retires—that in the absence of an observer it would be no obstacle to the falling of an inkstand or a book or to the passage of a bullet, and that we never run against it in the dark, unless we happen to remember beforehand that it is there; that it was not made by the cabinetmaker out of wood, as untrained thinkers have usually supposed, but every observer makes it for himself out of consciousness ; all of which and more of the same sort has been familiar to philosophers like Mr. Fiske a hundred years or more; in fact, since Berkeley told them so.

How it happens that I find the same table here to-day which I remember having seen in the same place yesterday, or last week, or how I am able to get the same account of it from an indefinite succession of observers, who come in separately and without collusion (or how it could at one and the same time be real as to me who happen to be here, and unreal as to my friend because he is away)—or how the body of mankind, whose chief business it is to know the truth, and to accept it when known, rather than to invent fantastic theories by which to obscure it, how they have always been convinced by these and other like considerations of the reality of the table; or how such things could be true without a real table as the basis of them; all these are difficulties of which Mr. Fiske has neglected to furnish us with Berkeley's solution. He is convinced nevertheless, that the reasoning upon which this kind of philosophising rests lies at the very foundation of modern scientific philosophy; and that though it has been misapprehended by many, no one has ever refuted it, and it is not likely that any one ever will ; and that until one has mastered it one has no right to speak upon philosophical questions. It would seem not to have occurred to Mr. Fiske in this connection, that in the effort to master this kind of philosophising, the philosopher may chance to be mastered by it ; neither does he seem to realize how important it might be in order to prove that he had mastered it, that he should begin by showing us how to refute it.

The attempt has also been made by Prof. Tyndall to evade the responsibilities of materialism by taking shelter under the wing of idealism. But following the German Fichte, he would conceive of the external world as an apparition of the mind; but, like any other attempt to arrive at the truth by putting it out of sight, this too meets with inevitable disaster. For it is to be remembered that when I think at the external world, you are a part of it, and when you think of the same external world, it includes me. Now, which of us is the apparition, and which the real thinker? An apparition if you please, but of whose mind, of mine or yours? For if of one, then why not of the other, or if of either, then why not of both? But in either case what becomes of the specious doubt?

When evolutionists seek by such a device to adopt all of the tenets of materialism without incurring any of its just responsibilities, do they do it without perceiving how they thereby outrage correlation, or do they think to play upon our credulity by passing off upon us a destruction of their own system for a menace to ours? But the emptiness of the ostensible refutation is inadvertently confessed when Mr. Fiske comes to his real refutation of materialism from the correlation of forces.

A striking peculiarity of this refutation is that while it is offered in behalf of Mr. Spencer's philosophy it is based upon the correlation of forces, the very ground upon which Mr. Spencer himself affirms, what it refutes; while again, in proceeding upon correlation, it is forced to assume the same reality of matter, which only a moment ago was devoted to destruction, at the hands of the Berkeleian psychology. To say that Mr. Spencer's evolution is in league with idealism is unwittingly to undermine correlation, which of necessity affirms the indestructibility of force; for how can force be indestructible unless it is real, or how can it be more real than matter, through which it is manifested to us?

But as Mr. Fiske enters upon his task with a labored attempt to shield Mr. Spencer and the doctrine of evolution from the deadly blows which he is about to inflict upon materialism, it becomes of interest to inquire as to the effect of such a proceeding, if successful. Evolution makes the highest possible pretentions to being a system of philosophy, which implies that it has an explanation to offer of the operations of the human mind. But the sole foundation of evolution is, as we are assured, "the persistence of force." Very well, say we, but how do you, for example, explain the phenomena of human intelligence from your prescribed principle? To this inquiry Mr. Fiske replies that evolution never assumed to give a scientific account of mental phenomena, but only an historical one, and that any attempt to do more than this "lands us at once in absurdity and contradiction." We may accept the latter conclusion without a murmur; but if Mr. Fiske really means as he says, what is he to do about the claim of evolution to be a philosophy? How can anything less than a scientific explanation of the origin of mind meet the demands of a philosophy which insists upon being called scientific? If, then, the oft repeated statements of Mr. Spencer had not already foreclosed the case against Mr. Fiske, we should be compelled to reject his plea in the very nature of the case itself. The alternative is plain. If we accept evolution at the hands of Mr. Spencer, it falls a victim to the refutation from the correlation of forces, or, if, on the other hand, we accept Mr. Fiske's apology, we at the same time deny the claim of evolution to be a philosophy.

But when Mr. Fiske joins Mr. Spencer in denying to evolution any other foundation than the persistence of force, he commits himself to all of the materialistic implications which Mr. Spencer asserts; and upon no other ground than the truth of these false deductions from correlation can he justify his opposition of evolution to supernaturalism. Any refutation of materialism therefore is a refutation of Mr. Fiske; and we find him rejoicing in the invincible strength of a system, which by his own proclamation he has just now "irretrievably discomfited."

But if we are compelled to dissent in a mild way with some of the by-play of Mr. Fiske's argument, we need not on that account fall out with its really earnest conclusion. The following statement of Mr. Fiske's argument is given for brevity's sake from the "Cosmic Philosophy." It differs in no other respect of importance, from his other expositions of the matter. He says: "Have we made the first step towards the resolution of psychical phenomena into modes of motion? Obviously we have not. The closed circuit of motion, motion, motion, remains just what it was before. No conceivable advance in physical discovery can ever get us out of this closed circuit, and into this circuit psychical phenomena do not enter. Psychical phenomena stand outside this circuit, parallel with that brief segment of it which is made up of molecular motions in nerve tissue. However strict the parallelism may be within the limits of our experience, between the phenomena of mind and this segment of the circuit of motions, the task of transcending or abolishing the radical antithesis between the phenomena of mind, and the phenomena of motions of matter, must always remain an impracticable task. For in order to transcend or abolish this radical antithesis, we must be prepared to show how a given quantity of molecular motion in nerve tissue, can become transformed into a definable amount of ideation or feeling. But this, it is quite safe to say, can never be done. Free as we were a moment ago to admit the boundless possibilities of scientific inquiry in one direction, we may here at once mark the bounds beyond which, in another direction, scientific inquiry cannot advance."—"Cosm. Philosophy," vol. 2, pp. 442, 443.

Mr. Fiske here speaks of the phenomena of mind as being restricted to what goes on within the mind itself. He does not therefore give the whole of the argument from correlation, as how could he without exhibiting the mind in its true colors as a cause, and so making havoc of his favorite doctrine of phenomenal cause. The causative acts of mind could scarcely be described in the vocabulary of phenomenal cause as "coexistences and sequences." But he does give us enough of it to show that Mr. Spencer's attempt to deduce the phenomena of mind from the persistence of force is utterly futile, and that any such attempt is in the nature of the case as unscientific as it is irreligious. But if any clear understanding of correlation leads to the rejection of Mr. Spencer's assumptions regarding mental phenomena, by showing those assumptions to be at war with the principles upon which they assume to be founded, what becomes of the attempt to expound the principles of social and moral conduct in the same materialistic way? The works in which the attempt is made are offered as the ultimate stages of a system of philosophy. Mr. Spencer has told us, however, that nothing can be a part of his philosophy unless it can be deduced from the persistence of force. Ethical and social conduct are manifestations of human intelligence; they are phenomena, that is to say, of mind. But if they cannot possibly be interpreted in terms of matter and motion, how can they be explained by the persistence of force; or how can they be parts of Mr. Spencer's philosophy? Or, under such circumstances how can there be such a philosophy?

But a system which fails to establish its claim to be a philosophy by explaining mental phenomena, is in still farther trouble by its inability to explain the phenomena of matter. We have been told so often and so long about the encroachments of matter and law upon the realm of spirit and spontaneity, that we sometimes forget ourselves and permit scientists and others to tell us without rebuke, how the discovery of the proper complement of physical causes in any case, demonstrates the absence of spiritual cause; as if we should say, upon finding the engines and the boilers, with the water and steam inside, and the proper quantity of coal on board, that we have a sufficient explanation of the voyage of the steamship, without taking account of the minds of pilot and engineer and captain. But these scientific wise men seem not to remember that the study of these material causes is precisely what demonstrates the necessity of spiritual causes to put them in motion. Engines and boilers are nothing to the purpose unless we have men to use them. They are always telling us that we must reason from the known to the unknown, but when they reason about causes this is precisely what they never do. Let us adhere in good faith to this precept of the scientists, and we shall find that what is true of the steamship and its motions is true of every phenomenon; that either within our knowledge or beyond it, there is room behind, however many material causes, for a spiritual cause as the real author of what they seem to do.

Modern scientific scepticism, so far as it has any meaning, is synonymous with materialism, and if it has any justification it is upon the scientific side. But admitting the truth of the correlation of forces, materialism is impossible except upon such terms as correlation prescribes. What those terms are Mr. Spencer has well explained in his "First Principles;" but not only is materialistic evolution impossible upon Mr. Spencer's terms, it is impossible on account of them; and Mr. Spencer asserts a correlation of all the phenomena of the universe with matter and motion, not only without a particle of evidence to support the assertion, but directly in the face of positive evidence to the contrary. We reject Mr. Spencer's system therefore, not because we dislike it, but because there are no facts upon which its claims can be justified. Attempting to explain everything, it fails to give a good explanation of anything. Making an imposing show of dealing with the phenomena of mind, it is unable to explain even those of matter; and it stands condemned not so much upon principles of metaphysics or theology as of physical science, and not merely upon our understanding of those principles, but upon Mr. Spencer's own explanation of them.

And now, if we must join the throng of those who, in compliance with the demands of a something which is usually denominated "modern scientific thinking," are pressing into the ranks of evolution, we do not presume to object; we only pause to enquire, shall we do it upon Mr. Spencer's principles, or upon Mr. Fiske's; on the supposition that psychical phenomena *can*, or that they *cannot*, be explained as modes of motion? And if we go with Mr. Spencer, we farther venture to enquire, how can we do it without misunderstanding and doing violence to the doctrine of the correlation of forces; or if, on the other hand, we follow Mr. Fiske, how can we escape, at the same time denying the claim of evolution to be a philosophy? And while we have the subject in hand let us furthermore discover, if we can, in what way and how far the fortunes of Mr. Spencer's attempt to found a scientific philosophy by expounding all the phenomena of the universe "in terms of matter, motion and force" have been advanced by the discovery of his favored disciple Mr. Fiske, that so far as the phenomena of the human mind are concerned no such thing can ever be done? And under such circumstances what shall we conclude regarding the unanimity of scientific belief in evolution?

SPONTANEOUS REGENERATION.

BY THE EDITOR.

THERE is a certain class of so-called scientists whose intense hatred of the supernatural gives them a disposition to believe in spontaneous generation; that is to say, it would gratify them to know that there came living things out of inorganic matter; that somehow that incomprehensible element of life which makes all the difference between an addled egg and a good egg, between an egg that has been cut out of a stone and an egg that has come out of an animal, that that "something" now and then allies itself with inorganic matter without the intervention of a Creator.

The wish is often father to the thought and mother to the statement.

All through many modern scientific books there is the most reckless scattering of statements, as if they were facts, which have absolutely not the slightest shadow of a foundation in anything known to truly scientific men. Apart from all religious prejudices—nay, without any pretensions to religion—there are scientific men who are ready to rebuke these unscientific pretenders to science. For instance, one of the most illustrious scientists now living, it would probably be agreed, is Dr. Virchow. The religionists would call him a thoroughly irreligious man, but he rebukes the tyranny of dogmatism which undertakes to master the whole view of nature by the premature generalizing of theoretical combinations.

The most desirable thing for the materialistic philosophers to be able to prove is spontaneous generation. Experiment after experiment has been tried to show that such a thing really occurs in nature; and once or twice certain experiments were triumphantly paraded as conclusive of the truth of that theory. And it really seemed as if those experiments had been fairly conducted. But those experiments themselves were subjected to tests of extreme delicacy and fidelity, and were shown to have been conducted under conditions which insured incompleteness.

No scientist of any respectability now believes in spontaneous generation. Professors Tyndall and Huxley tell us that there is not a particle of proof of any such thing having ever occurred.

The debt of religion to science is already very great. All true science is strengthening the foundations of Christianity and illuminating many of its darkest passages and chambers. The debt of Christianity to real science is hereafter to be immense.

One of the doctrines of Christianity is called regeneration. It is announced, in the words of the Master, "Ye must be born again." It is taught throughout the New Testament Scriptures that there must be a new nature in man, as new a nature as when vitality—whatever that is—comes to be connected with inorganic matter to produce that living, locomotive thing which we call an animal. This regeneration is absolutely necessary to spiritual life upon earth and everlasting life in Heaven.

The point in this doctrine which has made it foolishness to all Greeks and a stumbling-block to all Jews is that the Scriptures teach that there can be no such thing as spontaneous regeneration. Never, without the coming in of some element from without, does the human soul become regenerated. Never, by any changes occurring in itself, by itself, either involuntarily or voluntarily—that is, spontaneously in the highest sense, does a soul become regenerated. No soul can say to itself, "I will cultivate myself into goodness; I will change my whole nature; I will subject myself to all the most refining processes known amongst men; I will study and practice ethics; I will give to the esthetic part of my nature the most delicate culture by surrounding it with the highest objects of art, and indulging it in all the pleasures of the most refined taste; and I will sweeten my manners by commerce with the gentle and the avoidance of all the uncouth." A man may do all that and yet be thoroughly unregenerated.

Goethe, in our own day, did that perhaps more largely than any other man, and under the most favorable circumstances ; yet at the Court of Weimar he lived as thoroughly unregenerate a soul as any that inhabited the body of the most uncultivated peasant in the Black Forest.

The fact is that there is no such thing as spontaneous regeneration. It is by the will and power of God that a man is regenerated. It is, as the Apostle calls it, the regeneration of the Holy Ghost. A soul differs from inorganic matter in this, that it is possessed of will. It can keep out the spiritual life from itself, or it can admit the spiritual life, but it cannot create the spiritual life. It cannot superinduce upon itself the spiritual life. That is of God, and must be as direct an act of His as when He makes vitality enter into or seize upon and clothe itself with some inorganic matter.

The Apostle likens the regeneration of the soul to the creation of the world, the light shining into the darkness ; and just as that light shining into the darkness brought Cosmos from Chaos, so the Spirit of God shining into a human soul imparts to that soul the spiritual life.

The very scientific precision of the term is demonstrated by our science. Generation is the word used when life produces organism out of inorganic matter and regeneration when the Holy Ghost produces a new life in a life which already exists.

Why should men of physical science object to the results of science in another department when every day of our lives the most accurate conclusions in biological science are confirming and illustrating the most accurate conclusions in theological science?

A YEAR'S WORK IN OUR FIELD.

[The Anniversary Address delivered before the Summer School of Christian Philosophy, at Atlantic Highlands, N. J., 4th August, 1883; and repeated at Richfield Springs, N. Y., 25th August, 1883.]

By CHARLES F. DEEMS, D.D., LL.D.,
President of the Institute.

IN coming to the close of the second year of the history of our Institute, it may be well to recur to matters which concern the great work in which we are engaged.

DARWIN IN WESTMINSTER ABBEY.

Just before our Anniversary Meeting of last year one of the most conspicuous figures in the circle of the students of science disappeared from the scene of mortal investigation and discoveries. On the nineteenth day of April, A. D. 1882, Charles Darwin was laid near Isaac Newton in Westminster Abbey.

That is a simple statement of what appears to have been only the interment of a dead man. But it is a fact the significance of which will grow with years. Isaac Newton was a great scientist of the seventeenth century, and Charles Darwin a great scientist of the nineteenth century. The former was an able supporter of the Christian faith, and the latter is not known to have ever given it any voluntary aid by the exercise of his abilities. He was quick-sighted, industrious and laborious. He enriched the treasury of human knowledge. The result of his research led him to the adoption of a certain theory as to the origin of man. His theory, or some version of it, was used as an argument against Christianity. The impression was generally made that no one could be a Darwinian and a Christian at the same time. If the word Darwinian included many crude theories that were propagated under the name, the statement was true. And so for years the cry of multitudes of babblers who were opposed to Christianity had filled the air. It was, "Up with Darwinism—down with Christianity!" If Christian scholars challenged the conclusions which Charles Darwin drew from the facts which seemed established, the army stragglers of the Darwinian camp hooted at them; and if they assailed the absurd theories which attempted to get themselves footing under the name of a man to whom science acknowledged its indebtedness, the jeers and howlings with which these men filled the air were frightful to children and amusing to adults. If a man would not tolerate the claims of so venerable a religion as Christianity, he was not called "intolerant;" he was complimented as "liberal." But if scholarly Christians, striving to prove all things, that they might hold fast that which is good and true, and therefore making their intellectual progress with caution, showed any unwillingness to trust themselves to the thin plank of some slender hypothesis thrown over the dashing stream of some profound difficulty, these cautious Christians were called "intolerant."

Let the men who speak of the intolerance of Christianity consider these facts: Mr. Darwin owed his education to the Christian schools. He pursued a certain line of studies. He reached certain results of hypotheses. They were correct or incorrect. They were opposed to Christianity or not antagonistic thereto. They were read and known of all men. Christian scholars knew them as well as Mr. Darwin did. The chief shrine of one great section of Christianity is Westminster Abbey in London. The guardians of that structure are Christian scholars. These men gave official permission for the interment of Charles Darwin near the dust of Isaac Newton.

Now, one of two things follows: Either the teachings of Darwin were in accordance with the teachings of Christianity, or else the Christianity of the nineteenth century can never again be accused of intolerance by any who are not perversely uncandid. If it should be insinuated that the authorities of Westminster Abbey acted on their personal feelings, and did not represent the spirit of our modern Christianity, this is to be replied: To the best of our knowledge and belief no quarterly, monthly, weekly or daily publication in the interests of Christianity, over any responsible Christian name, has uttered the slightest insinuation of condemnation of this Westminster interment.

Where, now, is the "intolerance?" How have the haters of Christ and His religion showed tolerance? Suppose Charles Darwin had even been fool enough to father all the bastard theories that have been a-tramp in his name, and yet because of the real value of his real work in the field of science, Christianity entombs him with defenders of the faith who were very much more illustrious as scientists than himself, what verdict must the impartial world give to that act, if not the verdict of the highest proper appreciation of science by Christianity?

That Christianity indorses anything taught by Mr. Darwin which is really or even apparently antagonistic to Christianity, and especially that Christianity indorses the driveling, idiotic teachings of many who go under Mr. Darwin's name, is simply absurd. It is just as absurd as if, because Westminster Abbey had given place to John Wesley and his brother Charles, the Church of England should be supposed to indorse not only the nobler forms of Wesleyanism, but also all the small and sometimes ridiculous sects which claim John Wesley's honored name.

And, now, we turn upon these whirling and howling dervishes who strive to conceal their folly by assuming the name of science, and we demand of them to know whether, if they had a shrine in which to entomb the scientific men that departed this life, they would admit men of science who were Christians. Would not the bare fact that the man was a Christian, no matter what his attainments might be in science, exclude him from a place in the Westminster Abbey of infidelity? If any man ridicule that question, upon reflection we join in the laugh; for it is simply absurd to think of anything like a Westminster Abbey growing up from the midst of the vain babblers who are chattering about the intolerance of Christianity.

On the minds of all the nobler men engaged in science, who at the same time have not yet embraced Christianity, there must come a solemn sense of the breadth as well as the depth of our religion, as on the floor of Westminster Abbey, near Newton's honored dust, they stand beside the grave of Charles Darwin.

IMPORTANT DOCUMENT.

Soon after Mr. Darwin's death there was published a letter written by him to a student at Jena, in whom the study of Darwin's book had raised religious difficulties. At first there were doubts as to the genuineness of the paper, which, however, was at last conceded. This melancholy document is dated June 5, 1879, and was published in the number for October, 1882, of the *Rundschau*, in a lecture by Prof. Haeckel on "Die Naturanschauung von Darwin, Goethe, und Laplace." The authenticity of the letter is vouched for by Prof. Haeckel, who is entirely familiar with Mr. Darwin's handwriting.

This is the letter:

"Sir—I am very busy, and am an old man in delicate health, and have not time to answer your questions fully, even assuming that they are capable of being answered at all. Science and Christ have nothing to do with each other, except in as far as the habit of scientific investigation makes a man cautious about accepting any proofs. As far as I am concerned, I do not believe that any revelation has ever been made. With regard to a future life, everyone must draw his own conclusions from vague and contradictory probabilities. Wishing you well, I remain, your obedient servant, CHARLES DARWIN."

The whole weight of his character and attainments Mr. Darwin throws into the scale against Christianity. He will be quoted by thousands of young men to justify their neglect not only of Christian studies, but also of Christian duties.

Let such young men give careful examination to this record. See its admissions. It admits its writer to be old and in delicate health, and the whole tone is of one who is sadly invalided. This naturally gifted old man as he sinks toward the grave regards worms as a more important study than the greatest figure in all human history! As if science had nothing to do with humanity, but only with inorganic things and insensate forces, or, at the highest, with the orders of living things below man, and this after he had written on "the Descent of Man." If Canon Farrar were a person given to sarcasm the text from which he preached in Westminster Abbey on Mr. Darwin's death might seem to have been employed as a grim joke. It was, "And he spake of trees, from the cedar tree that is in Lebanon even unto the hyssop that springeth out of the wall; he spake also of beasts, and of fowl, and of creeping things, and of fishes." (I. Kings iv., 33.) But he said he had not time to settle the most important questions concerning the race of which he was a member. That statement should deprive his letter of all weight upon Christianity. Suppose he had had tenfold more intellectual power than fell to him or any other man, the statement which shows that he had not examined the questions with which religion is concerned should set aside his testimony. In a court of law, in some great steamboat suit for instance, if a question turned upon mechanics and the Chief Justice of the United States were a witness, and should affirm that he had not time to answer the questions fully, even assuming that they are capable of being answered at all—that law and mechanics have nothing to do with each other except as law makes a man cautious about accepting proofs—would his testimony have the slightest weight with an intelligent juror? There are men, the equals intellectually of the Chief Justice of the United States, as he himself would frankly admit, who *have* had time to study mechanics and who are capable of answering questions in that department. They are the men to call to the stand. There are men who are Charles Darwin's equals in intellect, who have had time and ability to examine this question. Their testimony is worth something on this subject, while Mr. Darwin's is worth nothing, not because he had not ability, but because he had not time or had not inclination to examine this branch of human study. It is admitted on all hands that it is no disparagement to any man's intelligence to have his testimony set aside in matters of which he confesses he has no knowledge.

But having so confessed, does it not glaringly reveal that lack of logical discrimination which was such a conspicuous defect in Mr. Darwin, that he should immediately make a most dogmatic statement about the very thing of which he acknowledges his ignorance. "Science and Christ have nothing to do with each other!" This old man, very busy, and in very delicate health, makes this very positive assertion. Has he studied science as little as he has studied Christ? Certainly not, else he would not be able to say anything about either; and his fame rests on his scientific studies. Has he studied Christ as much as he has studied science? He owns that he has not. Then, what right has he to express an opinion on the subject? Yet, he dogmatizes ridiculously. "Science and Christ nothing to do with each other?" Then, what has science "to do with?" Are there any phenomena which science must not examine? Has science to do with the worm at my feet, with the stone beneath my feet, with the evanescent thermometric phenomena about my person, yet nothing to do with a phenomenal man whose appearance in the midst of the ages has changed the whole face of philosophy, science, art, and civilization? Really we might be curious to know what limit Mr. Charles Darwin puts to science.

But there seems to be no limits to his disposition to dogmatize in his old age and failing health about things of which he confesses himself ignorant. He proceeds to tell the young student at Jena something on the subject of Revelation: "I do not believe that any revelation has ever been made." "Ever" covers measureless duration. Mr. Darwin is equal to the task not only of boldly expressing a definite opinion in regard to that of which he confesses ignorance, but also of oracularly including all time and space in his opinions. There is in the world and was known to Mr. Darwin that which makes claim to be "a revelation." Those claims have been examined by the greatest minds in the later centuries and admitted. Had Mr. Darwin examined those claims? *If he had,* and they had appeared inconclusive, then there was no obligation so imperative upon him as to exhibit the ground on which he rejected them. No other question of science—for this is a question of science—was so important to be settled. No study of species or individual equalled this in importance. *If he had not* examined those claims of revelation and yet had fixed opinions, what weight should we attach to such opinions on a subject, of which he was ignorant, of such a busy old man in delicate health?

But the secret of this inconsistency came out later. The letter to a student at Jena induces Dr. Robert Lewins to write to the *Journal of Science :*

"Before concluding I may, without violation of any confidence, mention that, both *viva voce* and in writing, Mr. Darwin was much less reticent than in his letter to Jena. For, in answer to the direct question I felt myself justified, some years since, in addressing to that immortal expert in biology as to the bearing of his researches on the existence of an *anima* or soul in man, he distinctly stated that, in his opinion, a vital or 'spiritual' principle, apart from inherent, somatic energy, had no more *locus standi* in the human than in the other races of the animal kingdom—a conclusion that seems a mere corollary of, or indeed a position tantamount with, his essential doctrine of human and bestial identity of nature and genesis."

This is the upshot of the whole system—men and brutes have identity, mind and soul are nothing more than instinct greatly developed, but still showing only such intelligence as is exhibited by climbing plants and earth-worms, so that there is no moral responsibility, and no assured future to man or to mankind! And this is a discovery which we are asked to believe to be equal to Newton's discovery of the law of gravitation! Poor old man! On the question of his existence beyond the grave he knew nothing but "vague and contradictory probabilities," and he had not time to determine which were weightier, and so he, whose name has been most spoken in scientific circles during the last quarter of a century of his life died, in the dark and in the cold. If this be all that such a system can give, the world of human hearts now hungering for bread will certainly reject this stone by whatsoever hand it may be offered.

ALLEN IN GIRARD COLLEGE.

The entombment of Mr. Darwin in Westminster naturally recalls another incident which may seem in contrast and suggest lessons.

In the city of Philadelphia there is a college amply built and endowed by a man who is claimed by the opponents of Christianity. The founder, Stephen Girard, provided in his will for the perpetuation of the endowment on the express terms that no clergyman of any denomination, Catholic or Protestant, should be admitted to the grounds or permitted to enter the college. The late President of that college, William H. Allen, LL.D., died. He was a man of extraordinary culture, as well as of remarkable ability. He was a Christian scientist, and he had been honored by the highest recognition American Christians can bestow upon a layman in being elected to the Presidency of the American Bible Society. As a scientific man he would have honored membership in any philosophical or scientific association. He was also one of the Vice-Presidents of the American Institute of Christian Philosophy.

Upon assuming the presidency of Girard College he felt himself shut in from intercourse with his Christian brethren who were ecclesiastics. When he was Professor of Natural Sciences in one of our colleges he had a pupil whom he impressed powerfully, and by the fascination of his methods of teaching drew the youth to scientific pursuits, which he has never since wholly abandoned. By an accident in the laboratory, which Professor Allen always charged to himself, although his pupil never did, the young man was so seriously injured that at one time his life was despaired of. But he recovered, and afterward became professor in a university. Between the two men there grew a very strong friendship. The young professor became a clergyman, and on a visit to Philadelphia called to see President Allen at Girard College. He was refused admittance. When Dr. Allen learned who was in the porter's lodge he rushed to meet his former pupil, his face all aglow with excitement, and exclaimed, "Does it not seem a shame that I live in a house which you cannot enter!" If this young man had been a liar, a thief, an adulterer or a murderer, he might have had free access; but he was a Christian clergyman.

The President of Girard College, taken suddenly so ill within the precincts that he could not have been removed, might have lingered there and died without being able to look into the eyes of his father, his brother or his son, if those gentlemen had been living and had been in orders in a Christian Church. He could neither have received nor given parting benedictions. He would have been cut off from intercourse with his spiritual adviser. As it was, the remains of this great man had to be carried out of the college to receive the decencies of a Christian funeral at the hands of the ministers of the religion he professed.

And this is the "liberality" of the opponents of Christianity!

Now, suppose a case. Suppose some rich Christian should die and by bequest found an institution of any kind and perpetuate the endowment thereof on the exclusion of every professed teacher of science, what would then be thought or said? Or, suppose that by the terms of the will there should be excluded from the grounds and buildings any man who did not believe in the plenary inspiration of the Holy Scriptures and the Divine Rulership of Jesus over the universe of matter and of mind, what would then be thought and said?

If there be any person who can produce on the side of Christians an example of illiberality which can match that which is seen in *Allen dead in Girard*, or on the side of anti-Christians an example of liberality which can be painted as the companion picture to *Darwin buried in Westminster*, it is that gentleman's turn to speak next.

PASTEUR AMONG "THE IMMORTALS."

Among the incidents of the past year it is natural that Christian scholars should revert with interest to the reception into the French Academy, into the company of the forty so-called "Immortals," of M. Pasteur, the celebrated Christian scientist. Succeeding to the chair of Littré, the late distinguished Positivist, he owes his place to no favoritism, but has won it by his commanding talents and learning. Called by the custom of the Academy to pronounce a eulogy on his predecessor, M. Pasteur is represented as having captivated his brilliant audience by his modesty, while he spoke nevertheless with the authority of a savant. The fact that M. Pasteur openly acknowledges that in all his discoveries he sees the hand of God, makes the following words remarkable as having been uttered by a renowned unbeliever in regard to a scientist who is a professed Christian. It was M. Renan who thus addressed M. Pasteur:

"There is something that we can recognize in the most diverse tendencies, something which belongs alike to Galileo, Pascal, Michael Angelo, and Molière, something which forms the sublimity of the poet, the depth of the philosopher, the fascination of the orator, and the divination of the savant. This indefinable afflatus, sir, we have found in you—it is genius. No one has traversed with a step so pure as yours the circles of elementary nature. Your scientific life is like a luminous train in the great darkness of the infinitely small, in those deepest abysses of being where life springs."

If the good and gifted M. Pasteur has read in the *Revue des Deux Mondes* of November, 1882, the last of the series of articles* which M. Renan has been writing on his own life, it must have taken all the sweetness out of the compliment. In that article M. Renan says:

"Were I to begin my life over again, I would change nothing in it. . . . A certain lack of frankness in the commerce of life will be forgiven to me by my friends; they will attribute it to my clerical education. I admit that in the first part of my life I told lies often enough, not for gain's sake, but on account of my natural goodness, also through contempt, and from the false idea which I always had to present things in a way that one could understand them. Oftentimes my sister forcibly showed me the inconveniences of acting in this way, and finally I ceased so to do. Since 1851 I do not believe I have uttered a single lie, except naturally some entertaining ones, pure *entrapelias*, some officious ones, and some for politeness' sake, which all casuists permit, and the little literary subterfuges forced upon me, in view of a superior truth, by well balanced sentences, etc."

He is not positive that he has not lied since 1851; but he thinks he has not. Now, a man whose "natural goodness" made him a "liar," on his own confession, through so many years of his life, can scarcely be supposed to have so suddenly become so much worse (*nemo repente turpissimus!*) as to have descended to the baseness of truth! How much "officiousness" may have entered into his compliment of M. Pasteur no one can tell, but its real truth all who know the new Academician will admit, whether it was uttered for politeness' sake or otherwise. But Renan's admission of "literary subterfuges" renders all his writings worthless except as specimens of rhetoric. Anything he may have said for or against Jesus or the Apostles may have been a mere "literary subterfuge."

---

* **Republished in English by G. P. Putnam's Sons, New York, $1.**

THE PRESIDENT OF THE BRITISH ASSOCIATION.

The meeting of the British Association for the Advancement of Science closed the first year of its second half century at Southampton. Its President was Dr. C. W. Siemens. In introducing his successor, Sir J. Lubbock said that "the ruling idea of Dr. Siemens's life has been to economize and utilize the forces of nature for the benefit of man," and called attention to the fact that to him we owe various fruitful improvements in the practical applications of electricity—the first electric railway, the electrical transmission of power, anastatic printing, the chronometric governor, the regenerator engine and furnace, and the regenerator *gas* furnace. The address of Dr. Siemens was masterly, and was full of practical thought and scientific information. It contained none of the crudities and unscientific credulities which have disfigured the addresses of some of his predecessors. It taught the comforting lesson that God is a willing and ready coöperator with every earnest, honest, humble laborer, and it gave many illustrations of this principle. It was pleasant to hear such a man as Dr. Siemens conclude his address from the chair of the President of the British Association by a reference to the conservation of the solar energy (theoretically premised by himself in March, 1882, and now, in part at least, actually observed by astronomers), and then to see him led to make such reflections as these: "We find that in the great workshop of Nature there are no lines of demarcation to be drawn between the most exalted speculation and common-place practice; in the conditions of solar and stellar spaces we recognize principles of high perfection applicable also to humble purposes of human life. All knowledge *must lead up to one great result*, that of an intelligent recognition of the Creator through His works."

SCIENTIFIC DOGMATISTS.

Certain of the scientists who are not in the front rank of thinkers are addicted to a dogmatism the sight of which should arrest the attention and correct the habits of any theologian who may have a tendency to walk in that way. They have no hesitation in declaring that their knowledge of "the laws of nature" renders it impossible for them to accept the teaching of Scripture; and some imperfectly instructed Christians tremble as they listen to them. But the British Church Congress was rendered memorable by the reading of a letter from an eminent man of science, in which he declared that the so-called "laws of nature," which are really merely human generalizations from facts observed in God's universe, are by no means so certain as is commonly supposed. Unable to be present to take part in the debate which followed the reading of Professor Stokes's admirable paper on the Harmony of Science and Faith, Dr. Andrew Clarke, Her Majesty's physician, sent a note which was read by the President. He said:

"I take advantage of this hurried note to express the hope that in dealing with the relations of science and religion some one will point out what I have not myself seen pointed out—(1) that there is nothing absolute in the whole objective world; no absolute standard of mass, quality or duration; that the knowledge of an absolute primitive weight of atoms is impossible, and that what we call the ordinary weight of a body is not a thing of itself alone, but a product of the body by which it is attracted, the distance between them, and the disturbances occasioned by other invisible but active forces; (2) that the assumption constituting the fundamental axioms of modern physics, that all true explanations of natural phenomena are mechanical, is incompatible with demonstrable facts; (3) that the progress of chemistry is becoming more and more irreconcilable with the theory of the atomic constitution of matter; (4) that there is no law of physics, not even the law of gravitation, without great growing exceptions, and no theory of physical phenomena, not even the undulatory theory of light, which is not now becoming more and more inadequate to explain the facts discovered within its area of comprehension; (5) and that, therefore, the boasted accuracy and permanency of so-called physical laws and theories is unfounded; that very probably the greater part of the so-called axioms of modern physics will be swept away as untenable; that theories of natural phenomena, apparently the most comprehensive and conclusive, are merely provisional; at present finality in this region is neither visible, attainable, nor clearly conceivable, and that after all there may be methods of spiritual verification which, within their condition, scope, and use, may compare not unfavorably with the methods so confidently depended upon in physical research."

VICTORIA INSTITUTE.

The Victoria Institute of Great Britain, whose President in his late Annual Address made such kind allusion to the American Institute, its younger sister, continues to do its work with a zeal which attracts attention and an ability which commands respect. During the year a careful analysis was made by Professor Stokes, F.R.S., Sir J. R. Bennett, Vice-President, R.S., Professor Beale, F.R.S., and others, of the various theories of evolution, without meeting any scientific evidence to prove or even give countenance to the theory that man had been evolved from a lower order of animals. Even Professor Virchow declares that there is a complete absence of any fossil type of a lower stage in the development of man; and that any positive advance in the province of prehistoric anthropology has actually removed us further from proofs of connection with the inferior animal kingdom. In this Professor Barrande, the eminent Italian paleontologist, concurs, declaring that in none of his investigations has he found any one fossil species developed into another. In fact, the report goes on to state that it seems that no scientific man has yet discovered a link between man and the ape, between fish and frog, or between the vertebrate and the intervertebrate animals; nor is there any evidence of any one species losing its peculiar characteristics to acquire new ones belonging to other species.

Among other matters that came before the Institute were the investigations of Hormuzd Rassam in Nineveh and Babylon, and his discovery of Sepharvaim, one of the earliest cities mentioned in Scripture. It was announced that the result of explorations now being carried on in Egypt would be laid before the Institute early in the winter. The discoveries in this field are represented as being very important, especially that of the site of Succoth, which is absolutely confirmatory of the sacred record. Mr. Rassam is also a member of the American Institute of Christian Philosophy, and has communicated a paper on the subject to the American Institute, which will be read at one of its earliest meetings. Prof. Stokes, who was on the committee named above, is the successor of Sir Isaac Newton in the Lucasian Professor-ship of Mathematics in Cambridge University, and is a member of the American Institute of Christian Philosophy.

JOSEPH COOK'S WORK.

It would seem to be in the line of this review to speak of the course of Monday lectures delivered last Winter in Boston by Joseph Cook, a valued member of this Institute. Mr. Cook's recent voyage around the world enriched his active mind with fresh materials. Much of that course of lectures was outside our line of work, but was popular and powerful, and always manifestly designed to make for the defence and propagation of "the truth as it is in Jesus." There is one passage which I reproduce because of its present interest as a picture of contemporaneous opinion and because of the value I am sure it will have to future historians of the progress of philosophy. It is this:

"It is a characteristic of the more cultured circles in England, and especially in Scotland, to ridicule the vagueness, evasiveness, slatternliness, and untenableness of materialistic and agnostic definitions of matter and life.

"You cannot live in the more cultured circles of Great Britain a month without greatly diminishing your respect for agnosticism and materialism. Yes; but you say, 'England is the home of agnosticism.' So it is. 'The chief defenders of materialism are in Great Britain.' So they are; but I am profoundly convinced, after conversations with the leaders of philosophical thought in University centers and elsewhere in the British Islands, that really advanced thinking in England is fundamentally anti-materialistic, anti-agnostic, and so really anti-Spencerian. You are sitting one day in Edinburgh, with a company of learned men, at table at dinner, and one of them says Herbert Spencer cannot read German. You think that must be a mistake, and turn to Professor Calderwood, and say, 'Is it true? That is a strange assertion.' 'I have always understood it to be the truth.' You ask the views of the whole company and find that not a man doubts the assertion. Agnosticism, as represented by Spencer, has a very poor following north of the Tweed. You are in the study of Lionel Beale one day in London, Herbert Spencer's home, and he says: 'That man's books contain so much false physiology that they will not be read ten years after his death except as literary curiosities.' And Lionel Beale is supposed to know something of physiology. You are afterward in Germany, and you find that Herbert Spencer is regarded as a bright man, indeed ; but by no means as a leader of philosophical thought. In short, as compared with Herman Lotze, you hear Herbert Spencer called a charlatan. It pains you not a little to find that your own country has large circles that follow him so loyally. It pains you to find that there is a British materialistic school. One day you express this view in company to Professors of Edinburgh and Glasgow, and one of them turns upon you somewhat sternly and says : 'There is no British materialistic school. Britain includes Scotland and England. There is no Scotch materialistic school. There is no English materialistic school. If there is any materialistic school in these islands, it is a London and a Cockney materialistic school.' This is Professor Tait, of Edinburgh. You hear the same sentiment expressed by Professor Veitch, of Glasgow, the biographer of Sir William Hamilton. But there is an Alexander Bain in Scotland, who defines matter, in the agnostic Spencerian way, a 'double-faced somewhat, physical on one side, and spiritual on the other.' You ask Lionel Beale what he thinks of this definition, and he says, 'It is obvious nonsense.' You quote that opinion to Professor Veitch or to a dozen others whom I will not have the pedantry to name, and you will find them all repudiating this central key-stone of modern materialistic theories. * * * Give me the recent volume of Professor Bowne, of Boston University, a pupil of Lotze, rather than the work of any pupil of Herbert Spencer, who is not spoken of with profound intellectual respect in the circles of the most advanced thought with which I have acquaintance in the Old World. Do not misunderstand me. This man has immense influence abroad. His scheme of thought is applied to all classes of subjects by a certain arrogant and noisy school of writers. But I am distinguishing between thought advanced enough to be really first class and that which is not more than third or fourth or fifth class."

THE SCHOOL AT PRINCETON.

Another distinguished member of the American Institute of Christian Philosophy, President McCosh, has during the last year made a movement which will be productive of great good at Princeton, and probably lead to similar movements in other great Colleges. It is the establishment of an enlarged Department of Philosophy. The distinguished President in a note as to this Department says :

"I mean to continue my instruction in Psychology, the History of Philosophy, and Discussions in Contemporary Philosophy, adding, if requested, a short course on Æsthetics. Dr. Shields will lecture on the interesting topics connected with the Relation of Science and Religion. Professor Sloane, who was for years secretary to Mr. Bancroft, the historian, and lately an acceptable Professor of Latin in Princeton College, has been appointed Professor of the Philosophy of History and of Political Science, including Government. Professor Osborn, an ex-Fellow of this College and who stood first in the inter-collegate contest in Mental Science, and lately a successful Professor in the State University of Minnesota, has been appointed Professor of Logic, Deductive and Inductive, and will next year also teach Ethics. It is intended, if possible, during the coming year to appoint a Professor of Moral Philosophy, theological and practical, and also a Professor of Jurisprudence and Political Economy. These six chairs will constitute a School of Philosophy. The professors will give instruction in the under graduate, but also in the postgraduate courses, discussing the important questions of the day in Speculative Philosophy, in Social and Economic Science. Four of these departments, and I believe a fifth, will be in operation the coming year (1883-84), and the sixth as soon as the proper person can be had. In addition, Professor Patton, of the Theological Seminary, will give a short course of lectures on the Higher Metaphysics, and Professor Scott and Professor Osborn, who have specially studied the subject in London, Cambridge and Heidelberg, as well as in this College, will lecture on the relation of the brain and nerves to the mind."

We can have no doubt that the instruction given in this Department will fulfil the learned President's hope "of raising and fostering an American School of Philosophy, as distinguished from the *a priori* school of Germany, and the materialistic physiological schools of England."

It is pleasant to recognize in this Faculty four learned gentlemen who are now members of the American Institute of Philosophy, and to know that already large funds have been pledged to the success of the enterprise. It is hoped that these laborious scholars will hereafter enrich the Schools and Meetings of our Institute with the results of studies which we are all sure will be conducted with Christian humility as well as with scientific carefulness.

OUR WORK.

Our experience as a working Institute is limited; we are just two years old. But in striving to carry out the original design of the Institute we have seen the importance of modifying some of our first plans. The By-Laws have been so changed as to place all matters pertaining to finance in the hands of the Trustees and all other matters in the hands of an Executive Committee, consisting of the President, the Secretary, the Treasurer, and five other gentlemen. These gentlemen have been, since the amendment was adopted, the Rev. Dr. Rylance, Rev. Dr. S. M. Hamilton, Rev. S. H. Virgin, General Clinton B. Fisk and T. E. F. Randolph, Esq. These gentlemen have all been selected from the city of New York, that the business of the Committee might be more conveniently despatched.

ENDOWMENT.

The Trustees appointed a Committee to secure an endowment, directing that all donations thereto and all interest therefrom be massed until the sum amount to ten thousand dollars. The income from that will be applied to incidental and office expenses, such as clerical help, postage, &c., so that the fees and donations may be appropriated to the production and dissemination of literature promotive of a higher and better knowledge of Christianity and Philosophy and of their connections. That fund has had contributions from Messrs. Cornelius Vanderbilt, Anson Phelps Stokes, D. Willis James, William E. Dodge, Morris K. Jesup, Clinton B. Fisk and Charles F. Deems.

CLASSIFICATION OF MEMBERS.

After much thought it was determined to classify the membership of the Institute hereafter as follows: 1. *Members*, who continue their membership by the payment of the annual fee of five dollars, each subscriber's year to be from first of January or the first of July at his option; 2. *Lectureship Members*, persons who have paid fifty dollars or more to defray the expense of any lecture in any of our courses; 3. *Life Members*, who have given fifty dollars or more to the general fund at any one time; 4. *Endowment Members*, who have contributed one hundred dollars or more to our permanent Endowment. We thus make places for all who approve our objects and methods. Never has an institution done as much work probably at so little cost as the American Institute of Christian Philosophy. But we shall make a sad mistake if we be always governed by the motive of striving to see how much work can be done for the least money.

EXPANSION.

As our funds increase we must plan larger efforts of usefulness. And our funds will increase as we grow older and make our objects and methods known to thoughtful and good people. There may be men of wealth who are waiting to see whether our skill in managing what we have justifies them in increasing our means and our responsibility. We must work patiently, but we must work vigorously. We must strive to increase our membership by inducing gentlemen of scientific and philosophic tastes, as well as those of real scientific attainments, to become members, not so much for what they can gain as for what they can give. We must explain also to those whose manner of life has not been either scientific or philosophical, but who love the truth and love to have its defences preserved and strengthened, that they should become members for what they can gain by studying our lectures and papers, and what they can give by material contributions to enable us to put in all our colleges and schools some antidote to the poison so industriously injected by the promoters of the deadly philosophy of materialism and agnosticism.

MEMBERS IN NEW YORK CITY.

Our prosperity would be increased if the members who reside in and about New York would put it in the list of their regular engagements to be present at the Monthly Meetings on the last Thursday evening of each month to hear the papers read there and to engage in the discussions. It would increase the interest of the gentlemen who favor us with their papers and would cultivate a taste for these higher studies.

MEMBERS AT A DISTANCE.

Members who live at a distance and sometimes hear lectures and papers in our line of work, such as should be repeated and published, would help us by putting our Secretary in communication with the authors of such productions. Everywhere our members should see that into their local newspapers there come frequent extracts from the lectures published in CHRISTIAN THOUGHT, which is now our organ, together with notices of our proceedings and announcements of projected courses of lectures, so that the public mind may be familiarized with the name of the *American Institute of Christian Philosophy*, and hear of it so frequently that at last, in the minds of the most apathetic, there shall be aroused a desire to know what we mean and what we are doing.

LAST WORDS.

If the President may speak of himself he will only take the occasion to express his heartfelt thanks to all who have afforded him help in the responsible labors of his position during the past year by their personal sympathy, by their efforts to lengthen the list of our membership, and by financial aid in promoting the circulation of our publications and in beginning a permanent endowment. And he could not close without a solemn utterance of his confirmed faith in the truths revealed in the Holy Scriptures of the Old and New Testament, and in God's personal interest in men's discovery of whatsoever truth there is in the universe.

CERTAIN INSIGNIA OF ORGANIC SPECIES.

[A Lecture delivered before the Summer School of Christian Philosophy, Atlantic Highlands, 6th August, 1883.]

BY E. F. BURR, D.D., LYME, CT.

ORGANIC beings are divided into groups by certain sensible differences. The broadest division is into vegetables and animals. Each of these two great classes is subdivided into a multitude of others, in each of which the individuals are alike in main respects and incapable of reproduction, at least in a series, with the other sub-classes. So organic nature is an archipelago. It appears in the form of innumerable organic islands.

Now these living islands, which we call *species*, have had from the beginning, so far as we know, certain epical traits in common—so epical that they deserve to be singled out and distinctly referred to that personal divine action which must have chosen and established them; more especially as they strongly suggest, if they do not prove, a form of divine action other than that concerned in *constructing* organic beings.

All species of such beings have something that we call LIFE. We give this name to that which keeps in play their seemingly self-active natures. Just what this something is has been matter of long and fierce discussion; and even to-day scientists as such are as much in the dark as ever, though we have what is called a science of Biology. Is it something within the bodies themselves (either some distinct inspiring essence inhering in them, or some peculiar correlation of the atoms and forces composing them), or is it some force from without, empowering them for their apparently spontaneous junctions? In the first case life is of course due to Him who not only contrived and made the first parents of each species, but without Whom our science cannot explain a single individual of their successors, as we will soon try to show.

If, under the pressure of such facts as these—viz., that the power of spontaneous movement for an end is not in harmony with our fundamental ideas of matter, that it seems to precede all visible organization, and that it ceases while yet organization seems quite unimpaired—I say, if under the pressure of such facts, we elect the latter supposition of the dilemma, what can that vitalizing force from without be, save the divine? What other do we know of sufficient for the work? What other force than His of Whom the Scriptures choose to say, *He giveth to all life and breath: He upholdeth our soul in life: In Him we live and move and have our being?* Is it so very unlikely that the seemingly spontaneous movements of bioplasm, as it throws out its bridges and drives hither and thither its shuttles, are not spontaneous at all, but are the work of Him of whom Job inquires, *Did not He that made me in the womb also make him, and did not One fashion us in the womb?*

All organic species have also GROWTH. No instrument made by man either lives or grows; every organism in the animal and vegetable worlds, without exception, does both. Beginning with a very small structural unit, each individual takes on symmetrically additions to all its parts, until, in process of time, it comes to many times its original size. This universal fact among living things is really very wonderful—about as much so as life itself—and as yet quite unexplained on natural principles. We know that the material for growth is found in the sap or blood; and that *somehow* out of this is filtered to the various parts what they need for their upbuilding; but here our knowledge ends. That *somehow* is a dark continent which our science has not yet landed on, nor even approached. What force directs that sure and silent analysis and synthesis? Who is the principal in that consummate laboratory?

To say that bioplasm, or living matter, in its earliest observable state, moves toward and appropriates lifeless matter and endows it with its own properties, is far enough from giving a scientific explanation of growth. It is a mystery from the side of science—as much a mystery to-day as it was when it was said of the seed, *It springs and grows up he knows not how*, or when at an earlier time it was said, *As thou knowest not the way* *of the spirit, nor how the bones do grow in the womb of her that is with child, even so thou knowest not the works of God who maketh all.* Is it done by mere vitality and structure, well conditioned chemically and mechanically? Growth ceases when as yet there is no discoverable vital, structural, or circumstantial change. Besides, what is growth but a kind of self-reproduction—a gradual reproduction on a larger scale of the original organic unit? In a few years the whole original matter is eliminated and replaced by new matter. We have an entirely new and better structure, but on the plan of the old. But, is it conceivable that an instrument can produce its own equal, much more its own superior?

Again, each organic species has its own fixed range of STRUCTURAL VARIETY. Thus men differ among themselves as individuals and races—as John differs from James, and as the lowest Hottentot from the highest Caucasian. Food, climate, many circumstances go to modify our inward structure as well as outward appearance. But the range of this variability is limited. Go a little way and you come to a wall as high as heaven. So with every species of animals or vegetables. Each has its own measure of structural flexibility to suit varying circumstances: if the human range is called one league, then that of another species is two leagues or more, but never runs on into the infinite—very far from it. We only go a little way, and to a *ne plus ultra* built squarely across the path, which neither art nor force can remove. It has never been passed, save in hypothesis. Observation being teacher, the different species never come to overlap, or to be coterminous They even remain widely apart; are as wide apart to-day as they were at the dawn of history, or at that vastly more remote time when their earliest fossils were living. Each species, like some jealous property-holder, seems to say to its neighbor, *No trespassing allowed.* They are all ships of a fleet, each riding at anchor on a cable of definite length which allows some change of place as change the winds and tides, but is still such as to keep it at a safe distance from all its fellows. They are all like the stars, radiant islands, each of which has its own range of minute changes, but never so roves as to collide with any other star. Such is the famous doctrine and fact of *The Stability of Species.*

How are these *termini* of structure to be explained? What keeps each species rigidly within its own bounds? Is there anything in its make-up to prevent its varying indefinitely? Nothing that is visible. May I not say, Nothing that is conceivable? Such variations as actually occur would, if continued, carry it into another species, and finally through all the species. And yet, just as soon as the variation reaches a certain point, it stops. Of course, if this is due to some invisible physical terminus, some Westinghouse brake, hid in the nature of the species itself, it was God, the contriver and maker of that nature, who placed it there. But it looks as though there were no such limit within itself. What is there in mere human nature to prevent its appearing in as many varieties as do pigeons? We know of nothing to prevent it but the current choice and agency of God.

There are other TERMINI of organic species each of which is quite as remarkable as that just mentioned. Each species has its own range of life duration, of adult stature, and of growth period. One never lives beyond a few days or hours; another never beyond a few months; another never beyond a few years. One never rises more than a few inches above ground, another never more than a few feet, still another never more than a few hundred feet. One always gets its growth in less than a hundred years, another in less than twenty, still another in less than a day. The members of the same species vary among themselves sometimes somewhat as to these particulars; but there is always a John o' Groat's house beyond which none of them ever go. At present men attain a size of about six feet, and an age of about seventy years, and their growth period is about twenty years.

And so every species of animals and plants has its own general limit of size, of age, and of growth-period. Whence came these differences? Of course either from a current Divine Providence steadily holding each species to the terms thought best for it, or from some peculiarity in the physical make-up and conditions of each species. But the differences seem quite independent of structure and environment. No structural bounds are visible, even to keenest-eyed science. What reason in Nature why a peach tree cannot live as long and grow as large as an oak; why a dog cannot live as long and grow as large as a man; why a man cannot live out the three centuries of an oak as well as a little more than three decades, stop growing at twelve feet of height as well as at six, continue growing for forty years as well as for twenty? Certainly, the actual terms seem purely arbitrary. They seem to exist by no necessity of nature or construction, but by the sovereign will and efficiency of a current Providence which, for reasons best known to itself, says to the stature and life and growth of each organic species, *Thus far shalt thou come and no farther.*

We also find all animals endowed with what are called INSTINCTS.

At the first introduction of any species into the world it needed at once certain elementary informations (or their equivalent in blind impulses) as to the ways and means of living and continuing the species. At once the new beings needed to avoid certain enemies. At once they needed to be able to move about freely, to find their suitable food and drink, to appropriate them by the curious and artificial process of eating and drinking. But then they had no parents nor fellows to imitate. They could not afford to await the slow teaching of experience. That very day they must begin to protect and nourish the life they had received. So, from the very outset, they had to be supplied with some promptly acting means of guidance. These were furnished by their Maker and should be allowed to be what are now known to us under the name of *instincts.* We find these sufficient for the work required, and they have actually been doing it as far back as we can trace.

It is a question whether these instincts came necessarily from the very nature of the animal (so that God established them in the very act of making that nature), or whether he by a supplementary act, as it were, equipped that nature with what it needed, but could not supply from itself. I am inclined to say that just as a householder, when his house is fully made, still needs to have certain furniture placed in it to make it fairly available; that just as a sailor, when his ship is quite done, even to the last iota of rigging, and well launched, still needs to have it provisioned for the voyage; that just as the inexperienced owner of a new watch or factory, though it is exquisitely finished down to the smallest details and beautifully running, still needs to be shown how to keep it a running, so the animal tribes, immediately on their advent, though perfect in their way for the time being, still needed to be shown at once the ways and means of continuing so—to be supplied with a certain preliminary capital of information in order to go about their business. A single day must not pass before they know at least what to eat and how to eat. So their Maker guided them—gave them what we call *instincts*. Instead of being the necessary outcome of the nature of the animal, instincts are an annex to that nature by direct Divine interposition.

Let us notice some of these instincts as they now exist. They give actions relating solely to the preservation of the individual and species. Plainly, these actions do not come from imitation; nor are they reached in the course of many crude attempts and failures. But, quite without help of observation and experiment, and as if by some necessity of nature, they are found done with perfect freeness and unerring accuracy as soon as occasion arises—done as well on first attempt, as far as strength will allow, as after long practice. For example, most animals, immediately after birth, fix without hesitation on the kind of food appropriate to them out of many kinds that are inappropriate, convey it to the one right opening into the body, and proceed to drink and eat as if veterans at the business. The acts of running, swimming, flying, and singing, are aboriginal with vast sections of the animal races. Embryo languages that call, warn, defy, and even elaborately inform (as in the case of some ants) come to them spontaneously. What naturalists call *habits* of animals are not habits at all, save in the etymological sense; the measures they take to get a living, to defend themselves against their enemies, to provide for their young, presenting themselves complete as soon as circumstances call for them. The duck would hasten to the pool, the hen scratch the ground, the pig root, the cattle seek the pasture, the beaver build his dam, the gull dive for fish, the humming bird probe the heart of flowers, the squirrel become an acrobat and lay up his stores for winter, if from the beginning secluded from all others of its kind. The spider weaves his delicate web, spreads it in the way of insects, lies in wait where it can best feel any disturbance of its meshes, waits till its captive is exhausted by its struggles, then sallies forth to secure its prey—a born hunter. The wasp makes a cell, deposits its egg; places by the side of it as many green worms as will suffice to feed the larva till it gets wings and can care for itself—a born naturalist as well as mother. Many species are born artists. The bird will, without instruction or experience, at the proper time of the year, artistically build a nest suitable in size, shape, material, situation; deposit its eggs, sit on them till the young appear, provide these young with proper food and protection till they can provide for themselves; and then, perhaps, as the winter comes on, associate itself with a host of others of the same species and migrate to sunnier lands. The ants or honey bees associate themselves, come under government, distribute occupations, find suitable places for homes; gather and work up fitting materials into the wonderful ant-city, with its complex of paths and its magazines of winter stores, or into the wonderful honeycomb, with its mathematical cells filled with pellucid nectar. Hardly less curious things are done naturally by many other sorts of animals. In many cases these instinctive actions are a large and intricate *system*, the parts of which are delicately framed into and proportioned to each other about as artificially as are the members of an animal body. This is most strikingly true of the humbler sorts of animals. But every species has its own striking set of measures conducive to self-preservation, to which it turns as naturally as does the free needle towards the pole—a set of measures which it seems born to, which seems to come to it on occasion ready made, which all its individuals use with equal facility and success, and in precisely the same way, the world over, and from generation to generation—in short, things which they seem to do out of the fulness of natural knowledge.

To say that such actions come from mere matter and its organization is bald materialism, with its malarial consequences. Such things cannot give rise to intuitive intelligence, or to intelligence of any sort. As little can they give rise to volitions, which are as spiritual products as thought itself, and are the immediate parents of all the instinctive actions we have been considering. And just as little can they give rise to any such blind impulses as are equivalent to intelligence, so far as effects are concerned. If a broad system of voluntary actions such as in man would be thought to imply intelligence of a high grade (such as we see in the economy of bee-life) can reasonably be supposed to come in any way from mere bodily nature and structure, it is hard to see how such an explanation cannot reasonably be extended indefinitely, say to all the various external actions of men and brutes that are commonly supposed to be prompted and guided by intelligence. *Can* mere matter be so put together as to turn out results that so imitate the best results of intelligence that it is impossible to discriminate the one class from the other? If so, materialism is sufficient to explain everything, and the Newtonian philosophy requires us to use it for that purpose, though it carries in its womb fatalism and irresponsibility, and so the abolition of government, of immortality, of religion, of God, of moral distinctions, and finally of the whole frame of society—in short, *Nihilism*, that devours everything in this world and the next, save hell.

But the brute nature has an intelligent part. Can this give rise to the intuitions or blind impulses that are the root of the instinctive actions we have been considering? Can *any* intelligent principle originate blind impulses? To say it seems very much like saying that it is possible to get out of a thing what is not in it; that it is not a fundamental law that everything begets after its kind; that fig trees may bear thistles, grape vines bramble berries, and matter mind. Can such intelligence as the brutes possess of itself give intuitions altogether above the human? If so, then their order of mind is above ours. What they see at a first glance we see only after laborious scientific processes. That hexagonal cell of the bee, that provision which the wasp makes for her worm-young of food which she cannot eat herself, but which is just suited in quality and quantity to the larva, is to us a research and philosophy—the luminous jet at the end of a considerable chain of machinery. An intelligence whose merest flashes of outlook are level with the researches of philosophers is grander than the mind of a Newton. But in point of fact, we know that the brute mind is nothing of the sort—a mere rush-light in the presence of the great effulgent candelabram, a toy spy-glass in the presence of the most space-penetrating telescope that ever looked toward the frontiers of creation. "*Ye are of more value than many sparrows.*" No, we cannot account for the ready-made arts and sciences found in the bee-hive, or ant-hill, or beaver-camp, on the ground that they come, lightning-paced, out of the native powers of such a grade of intelligence as this.

Besides, if the intuitions in question come only from the intelligent part of the annimal, and so depended solely on the degree of its intelligent power, they would not be limited, as they are, to the means of preserving the individual and species, but would extend in every direction to other fields of knowledge of no greater remoteness and difficulty—just as the eye that sees clearly the object at a certain point in the landscape is not restricted to a view of these, but, in general, can, by turning, see equally well all other like objects at the same distance quite around the horizon. Mere intelligence makes, not a luminous line, but, like the sun, a luminous sphere. But the instincts of the brute illumine only a long narrow strip of the great domain of knowledge. All other parts, however near, on the right hand and on the left, remain in profound darkness. It is as though the vision were abruptly broken off by solid black walls as high as heaven. From noon to midnight. From the state of kings to starvation. The brutes are no longer embodied arts and sciences, but living know-nothings. This looks very much as if their intuitions were given them from without, for a purpose, by some eclectic power—by their MASTER, who wished to qualify them capitally for their place, but designed that place to be a narrow one—a narrow Swiss valley zoned with Alps, on some lofty peak of which man stands and looks away freely into all Europe.

Another epical fact common to all organic species from the lowest to the highest, viz., PARENTAGE. Let us first notice it in connection with man.

Man becomes a parent. A miniature self appears—body as complete as his own; as complete as his own the new soul. Whence came that child-body? Have the parents had anything to do with *devising* its world of complex and exquisite mechanism? Assuredly not; no more than the bird has with devising its chicken, or the oak with devising its sprouting acorn. Are they mere machines, turning out unintelligently other machines like themselves? This seems impossible. A pin machine can turn out pins, but not pin machine *makers*. Men can turn out, in an instrumental way, blood or bile, but not men; and especially not men *makers*. Even God Himself cannot make His own equal. What remains but for each man to say with Job, "*Thy hands have made me and fashioned me together round about.*"

Further, or at about each body-birth, there is a soul-birth. The body receives an inhabitant. It is not matter but some thing that can think, feel, choose. It is not a product of bodily organization and the chemistries, but something that can survive the organism that serves it for a house, and even flourish on forever—the master of the mansion, the charioteer of the chariot, the image of the spiritual God, whence came this soul? It remembers no past. It is as fresh and dewy with tokens of recentness as the first bud of spring. Can body produce soul? Can one human soul unconsciously produce another human soul? In all the range of causation, outside of the present field of inquiry, where has a cause been known to make the equal of itself? But the child is often superior to its parent.

Plainly, something besides nature must be concerned in the human production. Unless we allow this we must allow both the possibility and naturalness of atheistic evolution. For, if mere Nature, without any exercise of devising intelligence, can originate the simplest embryo of a new man, and then in virtue of its own resources can develop that embryo in the course of some months through various ascending forms as diverse from each other as species into the new born child, why cannot it generate some *moneron*, and then develop it in the course of some millions of years through various like ascending specific forms into a man. It can. And so there is no need of a God to account for anything. If we reject this conclusion we must claim that behind the veil of natural conditions and agencies the supernatural is busy in every case of reproduction. It is to be claimed. Each new human body as much requires a Divine framer as did the first man. Each new human soul as much requires a divine author as did the soul of Adam.

Now, these wondrous births have been going on from the beginning with ever-increasing freeness: the one trunk putting forth branches, each of these branches itself ramifying, each of these ramifications spreading itself out abruptly into an immense fan of new being, and so on, until now some two hundred thousand new human bodies and souls present themselves on the earth each day.

But this is only one of many streams of descent. For a long time before the flux of human generations began, innumerable other births, scarcely less wonderful, had taken place among the brute and vegetable races; and these have continued without intermission, in floods that defy statement or imagination, down to the present time. At least a hundred thousand species of flora are continually reproducing themselves (as we say) and making the whole earth green with perpetual youth. At least a million species of brute fauna are continually reproducing themselves (as we say), some of them with amazing rapidity. Thus a single herring can deposit about forty thousand eggs in one season, a flounder a million, the common oyster still more; and an insect, called the cyclops, in four months can have forty-five hundred millions of descendants. The microscopic animalculæ are still more prolific—a single individual of one species being capable of multiplying in four days to one hundred and seventy billions. When we consider the vast number of individuals in many of these species—as, for example, in that of the herrings or pigeons, each of which sometimes sends out a thousand billions or more in a single company—and how each one of these increases like money at compound hourly interest, we feel quite lost in this perpetual deluge of new life. What is it but a perpetual deluge of divine action, of *wondrous* divine action?

The utter insufficiency of merely natural causation to account for a single one of these practically infinite reproductions ought to be easily admitted. The same reasons that demand the supernatural for each new man demand it for each new worm or weed.

A thing cannot make the equal of itself. It is against experience. It is unthinkable. Accordingly, the Scriptures declare that the heathen are without excuse for not knowing God, because His works immediately about them (not some remote first parents) clearly declare His eternal power and Godhead. That is, the *present* environment of every man, the wonders he *now* sees in the earth and sky, are plainly unexplainable by mere Nature. It is not necessary for him to grope his way back some thousands of years to a beginning of the organic races in adult individuals which only a true God could have made. Otherwise he would have a very good excuse for not knowing God—if the impossibility of doing it can be considered a good excuse.

It is commonly said that the age of miracles has long since passed, and that God never in these days gives water from a rock, nor bread from the sky. And unbelievers are apt to clamor for at least one good rousing miracle; and to protest that, if it could be had, they would at once flash into faith as gunpowder flashes at the touch of a live coal. *Miracles?* Let people open their eyes. Not a day passes that is not more shining with miracles of creation and construction than it is with the sun. We float in miracles as ships do in the ocean. Our homes, though men call them hovels, are floored and walled and ceiled with this gold. *No miracles now-a-days?* It is time such talk had ceased; time to cease quietly assuming—as even Christians are apt to do despite the whole tenor of Scripture—that astounding postulate that mere Nature is amply sufficient to account for the successive generations of the world. What a mistake! Parents are hardly more than a divine laboratory, or the chariots by which the young ride into being. The Amazon, sweeping on to the sea in ever-widening flood, is *modified* in many respects by the country through which it passes; but every new drop contributed to it at every point comes from ABOVE—from yonder high and snowy peak on yonder high sky.

SUMMER SCHOOLS OF THE AMERICAN INSTITUTE OF CHRISTIAN PHILOSOPHY.—1883.

The Third Summer School was held at Atlantic Highlands, N. J., a delightful sea-side resort, an hour by steamer from New York. Five lectures were delivered by the following gentlemen on the subjects announced, viz.:

Lyman Abbott, D.D., Editor of *The Christian Union* : "The Theology of St. Paul." J. B. Thomas, D.D., Brooklyn, N. Y. : "Darwin, Emerson and the Gospel." Charles F. Deems, D.D., LL.D.: Anniversary Address before the Annual Meeting of the American Institute of Christian Philosophy. E. F. Burr, D.D., Lyme, Ct.: "Certain Insignia of Organic Species." Rev. A. H. Bradford, Montclair, N. J.: "Hereditary Environment and Religion." The lectures commenced Thursday, August 2nd, and closed Tuesday, August 7th. In addition to the lecturers, the following gentlemen took part: Rev. Henry P. Collin, Mr. S. H. Wilder, Rev. Dr. Howard Henderson, Rev. J. E. Lake, Rev. Alfred Taylor, Rev. Dr. Rylance and others.

At the Annual Meeting the officers of last year were re-elected.

The Fourth Summer School of Christian Philosophy was held at Richfield Springs, N. Y., commencing August 21 and closing August 31. The following is a list of the subjects and lectures in the order of delivery: Tuesday, August 21st, J. H. Rylance, D.D., Rector of St. Mark's Church, N. Y., "Counter Currents;" 22nd, Henry Darling, D D., LL.D., President of Hamilton College, "Natural Christianity;" 23rd, Benjamin N. Martin, D.D., Professor, University of New York, "Design in the Elementary Structure of the World;" 24th, S. G. Brown, D.D., "Some Characteristics of Early English Literature;" 25th, Charles F. Deems, D.D., LL.D., President of the Institute, "A Defence of the Superstitions of Science;" 27th, Henry A. Buttz, D.D., President of Drew Theological Seminary, "Plato and St. John;" 28th, Ransom B. Welch, D.D., LL.D., Professor Auburn Theological Seminary, "The Philosophy of Belief *versus* Drifting;" 29th, Isaac Erret, D.D., Editor of *The Christian Standard*, Cincinnati, O., "Discussion of the Leading Theories of Inspiration;" 30th, Francis L. Patton, D.D., LL.D., Professor, Theological Seminary, Princeton, N. J., "Some Recent Criticisms of Theistic Proof." 31st, A. P. Peabody, D.D., LL.D., Cambridge, Mass. "Beauty."

The first meeting for Conversation was held in the lecture-room of the Presbyterian Church, but that soon became too small, and so most of the Conversations and all the Lectures were had in the body of the church. A larger attendance was secured than at any previous School held in Summer by the Institute; a number of very able and useful members were obtained; all the interests of the Institute were largely promoted and measures taken which promise its establishment on a sound basis. In addition to those named above, the following gentlemen are remembered to have taken part in religious or literary exercises: Rev. Dr. Cattell, Rev. Dr. Lothrop, Rev. Ed. W. Breckinridge, Rev. William Ainley, Rev. Dr. Kempshall, Rev. Robert Granger, Rev. C. E. Babcock, Rev. D. M. Rankin, L. D. Gould, M.D., Rev. Dr. Gibson, Rev. L. D. Gray.

CHARLES M. DAVIS, *Secretary*.

THE LANDS OF THE BIBLE, ANCIENT AND MODERN.

BY MR. HORMUZD RASSAM, OF LONDON.

[A Paper read before the American Institute of Christian Philosophy, October 25, 1883.]

BABYLON, which is considered by all ancient writers and believers in revelation to be the cradle of the human race, the spot in which the foundation of all the languages of the world was laid, and where, in fact, the first disbelief in the Lord Jehovah was originated, is now a heap of rubbish, where the wild beasts of the desert still lie and the owl makes his abode! Nineveh, the largest city known to the ancients, said to have been sixty miles in circumference, wherein, as it is recorded in the Book of Jonah the Prophet, dwelt *six score thousand souls that could not discern between their right hand and their left hand*, and which played a conspicuous part in the history of the primitive world, has been, ever since the fulfilment of its foretold doom by the Prophet Nahum, "an utter waste" and "a gazing stock." Egypt, whose transgression in the enslavement of the people of God was punished with repeated chastisements, for the sake of having rendered, once upon a time, succour to Israel, and having given shelter to the infant Saviour, has been suffered to exist as a semi-independent State. But the powers of Damascus, Tyre, Sidon and other minor Canaanite Principalities have been banished from off the face of the earth, "as when God overthrew

Sodom and Gomorrah," as it was foretold by the Prophets Isaiah, Jeremiah, Ezekiel, Hosea, Joel and Amos, for their wickedness and vice. Nor was the Holy City, the chosen tabernacle of the Most High, suffered to escape for the stiff-neckedness and rebellion of His chosen people, but every word which was foretold by the Prophets against that wicked and ungrateful city has been truly and literally fulfilled, more especially after the crowning of its folly by the infamous treatment of the Prince of Peace, its Messiah. But Persia, the chosen instrument of God for the chastisement of the Assyrians and Babylonians for their pride, arrogance and cruelty, has been suffered to exist as an independent monarchy up to the present time as a reward for its former benevolence to the exiled Jews and the help rendered for the rebuilding of the temple of the Lord at Jerusalem.

Of all the nationalities mentioned in the Old Testament only the Persian holds its own now, both in dominion and power, but the remnants of the other ancient peoples have been brought into subjection under one sway, which is that of the Turk, known in history by the name of Tartar or Scythian. Of all the tribal and national names mentioned in Scripture and ancient history, not one has retained its primeval form with the exception of the "Jew;" but this appellation is held in great execration all over Turkey, where the name of a *Jew* is looked upon as a reproach and by-word! More than nine-tenths of the population of Turkey and Persia are followers of Mohammed, and the remainder are a mixture of Christians, Jews and nondescript sects; as the latter do not themselves exactly know what they believe. They are the Guebres, or ancient Parsees; Sabians, who are commonly known as "Christians of St. John;" Censarees, Druzes, Yezeedes, or devil worshippers, and Shabbaks. From the constant intercourse and intermixing with their Christian and Moslem neighbors, more especially from being constantly assailed and persecuted in their religious rites, the latter sects have come now to acknowledge Jehovah, the God of the believers in revealed religion. It is a noteworthy fact that though constant mention is made in Holy Writ of the idolatry of the different Gentile nations which inhabited those countries in olden times, there is now no such thing as the worship in high places of idols or of the heavenly host in any part of Turkey or Persia, nor are there any sacrifices performed by any known community.

The Christians are distinguished by the appellation of their sects, such as Armenians, Greeks, Chaldeans, Syrians, Maronites and Copts. As I have to touch again upon the variety of dogmatic belief existing amongst those Christian sects and their origin, I must proceed to give a short statement of the rise and progress and ultimate fate of those two great kingdoms, Assyria and Babylonia, which were famous for their ancient civilization and conquests.

Not more than fifty years ago, before Mons. Botta discovered the Palace of Sargon, and Mr. Layard brought to light the annals of Sennacherib, sceptics considered the events recorded in the Bible about the deeds of Shalmaneser, Sennacherib and Nebuchadnezzar in the Holy Land to be mere myths, but now the hidden treasures of the earth have come forth to testify to the truth of the sacred writings; and the monuments and records of those monarchs can now be seen at the British Museum by any one who will take the trouble to go and examine them. Shalmaneser can actually be seen represented on the black obelisk found by Layard at Nimroud, in the act of receiving prisoners and tribute; Sennacherib is represented on a sculpture found in his palace in Nineveh sitting on his throne before Lachish, supposed to be giving his command to his Ministers, Tartan and Rabshakah, for the siege of Jerusalem, as it is recorded in the Second Book of Kings and in Isaiah. It is also related in the same chapters, that while Sennacherib was worshipping in the house of Nisroch, his god, "Adrammalech and Sharezer, his sons, smote him with the sword, and they escaped into the land of Armenia; and Essarhaddon, his son, reigned in his stead." This very idol of Sennacherib can now also be seen in the British Museum in the form of an eagle-headed figure, as *Nisr* in the Semitic language means eagle; and if it is derived from the Chaldee root it means to lacerate and tear.

In Essarhaddon's inscription, found in Nineveh, it is mentioned that he was at war with his half-brothers after his accession to the throne, which fact agrees wonderfully with the sacred account in regard to the escape of Adrammalech and Sharezer to Armenia.

All the Assyrian, Babylonian and Medo-Persian kings mentioned in the Bible have been identified in the inscriptions discovered in Nineveh and Babylon—such as Asshur, Pul, Tiglath-Pileser, Shalmaneser, Sargon, Sennacherib, Essarhaddon, Nebuchadnezzar, Evilmerodach, Cyrus and Darius—and, with the exception of a few minor differences in some dates, the chronologies of both agree in the most important points in connection with the Jewish wars.

There has been such great diversity of theories regarding the history and duration of the Chaldean, Assyrian, Median and Medo-Persian monarchies, that it is very difficult for any impartial reader to sit down and make proper calculations from the conflicting opinions that present themselves before him. Though some critics have found some of the chronological accounts in the Hebrew sacred writings irreconcilable, they cannot, nevertheless, place more faith on the dates given by profane historians. Upon the whole, the cuneiform records tally more with the Mosaic cosmogony and the history of the Old World than the Greek and other writers. Even now the origin of the Chaldean monarchy and the exact time when the Assyrian kingdom came into existence have not been quite proved. In Genesis, chapter x., 11th and 12th verses, it is recorded that "out of that land went forth Asshur and builded Nineveh and the city Rehoboth, and Calah and Resen, between Nineveh and Calah, the same is a great city." But in the margin the going forth of Asshur is rendered, "he went out into Assyria;" that is to say Nimrod himself went thither and built Nineveh and the other great ancient cities. A good deal of dispute and discussion have taken place with regard to the true meanings of the word *Asshur*, inasmuch as it is in Hebrew a proper name both of a man and of a country, and up to to-day some believe it to mean the former and others the latter. The same difficulty seems to present itself to different readers in connexion with the mention of the divine punishment to the land of Assyria alluded to by the Prophet Micah, ch. v., 6, where it is said, "And they shall waste the land of Assyria with the sword, and the land of Nimrod in the entrances thereof." Some scholars are of opinion that "the land of Nimrod" is meant here to be Babylonia or Chaldea, but others take it to be Assyria; and I suppose that those who differ now upon these diversities of meanings would have their own adherents to the end of the chapter. I must confess I am of the latter opinion, because, in the whole book of the Prophet Micah there is not the least allusion made to Babylonia or Chaldea, but as it is said in Psalm lxxviii., 51, that "God smote all the first born in Egypt; the chief of their strength in the tabernacle of Ham;" so also the land of Assyria and of Nimrod meant the same country in Micah.

Be this as it may, in quoting the dates of the existence of the different principal nationalities I do not intend to give an opinion upon them, but merely confine myself to what certain learned men, more able than myself to master the subject, have set forth, and leave it to more competent scholars to make their deductions therefrom.

According to the Scriptural account, Nineveh, or the oldest Assyrian Empire, was founded about 2,230 B. C.; but Diodorus Siculus, taking his information from Ctesias, says that it was founded by Ninus, 2,183 B. C.; whereas, Africanus is said to have fixed the foundation of the Assyrian Monarchy, on the authority of Syncellus, about 2,284 B. C. Eusebius, the Armenian historian, places it about 2,116, and Æmilius makes it thirty-nine years later. The most clear evidence is mentioned by Polyhistor, found in the Armenian chronicle believed to be an extract from the work of Berosus, the Chaldean historian and priest of the temple of Belus in Babylon. This record contains a table from the dynasties of the old Assyrian empire assigning the date to each, and the addition of the figures gives the epoch 2,317 B. C. as that of the foundation of the first Assyrian Empire. The duration of the first Assyrian Empire, according to the account given by Ctesias, was 1,306 years; but both Herodotus and Berosus make it only about 526.

The later Assyrian Empire commenced with Tiglath Pileser I, about 1,110 B. C., and lasted only 470 years, and terminated with Assur-bani-pal, known by the Greeks as Sardanapalus, about 640 B. C. This monarch became famous from his warlike exploits and success, and from what we see of the sculptures which adorned his palace in Nineveh, and which are now in the British Museum, it appears that in his time art improved greatly. In this palace I discovered the Deluge and Creation tablets and the record of his twenty-four years' reign and conquest inscribed on a terra cotta cylinder which was buried in a wall. Sargon, Sennacherib, and Essarhaddon the father of Assur-bani-pal or Sardanapalus, reigned from 711 to about 660 B. C. These four kings seem to have extended their conquests far and wide, especially in Western Asia, between the Mediterranean and the Halys on the one hand, and the Caspian and the great Persian desert on the other. During the period of their reign they ruled over Susiana, Chaldea, Babylonia, Media, Armenia, Mesopotamia, parts of Cappadocia and Cilicia, Syria, Phœnicia, Palestine, Idumea, and for a time Lower Egypt. Cyprus was also for a time a dependency of Assyria and the Prince of that island used to bring the yearly tribute to deliver to the King of Assyria at Nahr-el-Kalb, near Beyrout. With the son of Sardanapalus, who was supposed to be Saracus, the last remnant of the Assyrian Monarchy came to an end through the invasion of his country by the Median King Cyaxares who was in alliance with the Chaldeans and Susianians. The Assyrian monarch had made Nabopalassar, the father of Nebuchadnezzar, his general, and sent him to Babylon as his deputy, but on arriving there he revolted and concluded a treaty with Cyaxares after which in conjunction with the Medes, he besieged Nineveh. Saracus, who was weak and effiminate, spent his best time in debauchery, and neglected the care of his kingdom; so when the Medo-Chaldean army besieged Nineveh he, finding no escape from disgrace and ruin, shut himself up with all his family and followers in his palace, which he committed to the flames and perished therein. This edifice, where Sennacherib was supposed to have been murdered by two of his sons, was discovered by Mr. Layard in 1845. It was found to be utterly destroyed by fire, and nothing of any intrinsic value was seen in any of the rooms; nor was there a sign of the household utensils or furniture to be seen in any part of the buildings. Everything the last Assyrian King possessed must have either been made of perishable materials, or else before the palace was filled in with debris the enemy despoiled it of all its valuable treasures. History informs us that the Tigris rose at the time to such an extraordinary height—such an incident not having occurred before or after that event—that it destroyed a part of the city wall and suburbs, which enabled the invading force to gain admittance into the city. This catastrophe tallies wonderfully with the prophecy of Nahum, where it is said in verse 8th of the 1st chapter, "But with an overrunning flood he will make an utter end of the place thereof and darkness shall pursue his enemies." Then, again, the destruction by fire of Nineveh is thus foretold in the 3d chapter, 13th verse, "Behold thy people in the midst of thee are women: the gates of thy land shall be set wide open unto their enemies; the fire shall devour thy bars." The enemy completed its destruction by setting the whole city on fire and demolishing its strongholds. All the Assyrian palaces and temple show unmistakable signs of the wilful destruction caused by the enemy, which terrible sight reminds one of the prophecy of Nahum, which we read in the 5th and 6th verses of the 3rd chapter in the following woeful words, "Behold I am against thee, saith the Lord of hosts, and I will discover thy skirts upon thy face, and I will show the nations thy nakedness and the kingdoms thy shame, and I will cast abominable filth upon thee and make thee vile, and will set thee as a gazing stock."

There were six palaces and two temples discovered within what I consider to have been the circumference of ancient Nineveh as it existed in the time of the Prophet Jonah.

The oldest, which was discovered at Nimroud by Mr. Layard, and which he called the "Northwest palace" was built, according to the inscription found therein, by Assur-nazir-pal or Assur-dani-pal, the father of Shalmaneser. This was the only palace in Assyria which was found in a tolerable state of preservation, and which had not been injured by fire. Between this palace and a temple discovered by Mr. Layard, at the northwest corner of the mound I discovered that monarch's temple in utter demolition; there were pieces of pillars and fragments of the altars and tripods, intermingled in incalculable confusion with bits of the ornamental ceiling, inscribed terra cottas, and other objects evidently belonging to the same edifice, which showed how reckless and bitter the enemy was in utterly destroying the hateful Assyrian sanctuary.

The second palace was that of Sargon at Khorsabad, discovered by Mons. Botta in 1844, when he was acting as French Consul at Mossul. The sculptures of this palace were found in a dilapidated condition, but some of the huge human-headed bulls and gigantic figures were found in a wonderful state of preservation and stand out in bold relief. A Colossus, supposed to be the Assyrian Hercules, is represented carrying a lion under his arm and holding a scourge in his right hand. At the Louvre at Paris and the British Museum in London there are fine specimens of these monoliths. At Khorsabad as well as Koyunjik the great portals forming the centre of the facade consisted on each side of three colossal bulls with human heads and eagle's wings and a gigantic figure of a man, as I have above described, each formed of a single block of alabaster. All those found at Koyunjik were in a dilapidated state and unfit to remove. The Northwest palace at Nimroud had its great portals also adorned with human-headed bulls and lions of much smaller size than those found at Khorsabad and Koyunjik; but there were no human figures between them; and the lions and bulls forming the grand entrances were placed singly on either side.

The third and the largest of all the royal buildings was found by Mr. Layard at Koyunjik or Nineveh proper; but the sculptures of this palace were so much burnt and dilapidated that only a few of them could be removed to England. On one of the bulls of this structure was inscribed Sennacherib's memorable expedition against Lachish and Jerusalem, as related in the 18th chapter of 2d Kings and 36th chapter of Isaiah.

The fourth palace was found at the mound of Nebbi Yunis adjoining Koyunjik ; it was begun by Sennacherib and finished by his son and successor, Essarhaddon. This was partially excavated by Tayar Pasha, Governor of Mossul, in 1852, for the Ottoman Government. From the rude and unfinished state of the alabaster slabs found therein it seems that before Sennacherib had time to adorn its walls with sculptures he met with his death at the hands of his sons, Adrammelech and Sharezer. It appears that the Assyrian monarchs were in the habit of panelling the chambers and halls of the palaces with plain alabaster slabs, and after each great victory or conquest they engraved a separate scene or subject in a different room; so one chamber represented a battle in Babylon, another in Lachish, another in Susa, and so on.

The fifth royal residence, built by Essarhaddon at Nimroud, Mr. Layard calls "Southwest palace," but in comparison to the other Assyrian buildings it is scarcely worth that grand-sounding name. All the slabs of this edifice seem to have been used formerly by some other king; their sculpturings were turned to the walls, generally upside down, and new designs of the reigning monarch were engraved thereon. This shabby way of erecting a palace by a renowned king does not quite coincide with what Essarhaddon has recorded in his annals regarding the magnificence of the royal residence and temples he set up in Assyria and Mesopotamia. In one inscription he states that he built not fewer than thirty temples, "shining with silver and gold, as splendid as the sun." In another place he speaks of another palace which he had built in Nineveh on the mound known now by the name of "Nebbi Yunis," which he calls *a palace such as the kings, his fathers, who went before him had never made.* He gave it the name of "the palace of the pleasures of all the year." It was supported on wooden columns and roofed with cedar and other trees. As I said before, when the Ottoman authorities excavated in this mound they found nothing but plain slabs and unfinished human-headed bulls and gigantic figures. I made some tentative excavations at this mound three years ago, but I was not allowed to do much in consequence of the opposition of the Ottoman authorities. It is to be hoped that the British Museum will yet be permitted to carry on the necessary excavations there, as I feel confident that some very valuable records are buried there.

The sixth palace was discovered by me at Koyunjik in 1854; it belonged to Assur-bani-pal, son of Essarhaddon, commonly known by the name of Sardanapalus. Most of the bas-reliefs of this structure were found in a good state of preservation; and those which represent the lion hunt show a great advance in art in comparison with other Assyrian sculptures, and whether one looks at the lions charging or being chased, others suffering from the wounds inflicted by the king and his retinue, hounds held by a leash and trying to break loose from their keepers, or dogs chasing the wild ass and deer, he cannot help being struck with the spirit of the different scenes represented. In this lion-hunt room, which was long and narrow, I discovered the creation and deluge tablets with hundreds of other terra-cotta records of the past. When I was sent out again by the Trustees of the British Museum to carry on further researches in Assyria in 1878, I deemed it advisable to make a thorough search for inscriptions both in Sennacherib's palace and that of Sardanapalus, and I was fortunate enough to discover buried in a wall of the latter the annals of the last-named king, giving an account of his twenty-four years' reign. I hit upon this unique official record in a most extraordinary way, because it was by a mere accident that I discovered it. Formerly we did not consider it worth the trouble or expense to break down solid brick walls; but as I had given orders to the workmen that if they came upon a broken wall they were to search it, as we had found on several occasions some interesting relics mixed up with the debris, I was asked by one of the overseers superintending the work, if he was to break down a small remnant of a brick wall which was left standing in digging out two chambers. Fortunately I ordered him to demolish it, because no sooner did the workmen break into it than they came upon an almost perfect decagon terra cotta cylinder covered with 1,300 lines of fine inscription detailing the conquests and the extension of the sway of Assur-bani-pal.

There is another notable mound in Mesopotamia, about 60 miles down the Tigris from Mossul, called Caleh Shirgat, which must have been a very important city in the time of the first Assyrian monarchy. It was founded, according to the theory of Assyrian scholars, by Asshur, and was the city where the seat of government was first established, and which they consider to be the Resen of the Bible mentioned in Genesis. Both Mr. Layard and I (also the French) excavated there, but neither the one nor the other found any trace of its former magnificence. We found a few fragments of antiquity and some inscriptions, but there was no sign of any ancient buildings. In a small conical mound, in the centre of the main one, we found three terra cotta cylinders almost a copy of each other, giving the history of the reign of Liglath-Pileser I., about 1,100 B. C. This is supposed to be the oldest record discovered in Assyria.

The third and grandest temple I discovered in 1876 was in a separate mound called "Balawat," about 15 miles to the east of Mossul, from which I obtained for the British Museum the famous bronze gates of Shalmaneser. I had no end of trouble to secure this rare relic for the national collection, because the whole mound of Balawat was covered with Moslem tombs; and as a matter of course, there was a good deal of opposition against my doing so; but happily by patience and perseverance, I managed to have the whole removed safely to Mossul, whence I despatched it to England. These gates were put up by Shalmaneser II. (B.C. 860 to 825) most probably in the time of the divine mission of the Prophet Jonah to Nineveh. The body must have been made of cedar or other wood. Only the bronze plates have been preserved, which are fourteen in number, each measuring about eight feet in length by one in width. Each plate is divided into two panels, ornamented all round with rosettes, on which are represented battle scenes, triumphant pageants, and religious performances of the king.

According to the opinion of Assyrian scholars the mound of Nimroud was *Calah* and "Caleh Shirgat" was *Resen*, as they are mentioned in the tenth chapter of Genesis; and the majority of travellers place *Rahaboth* on the right side of the Euphrates, about 250 miles above Babylon, on the site of the present ruin called "Rahaba."

Nimroud may or may not be *Caleh*, but I certainly do disagree with regard to the sites of *Resen* and *Rahaboth*. There is no reason why because an inscription is found in a mound wherein the name of *Resen* is mentioned that we should at once conclude that the spot in which it was found is meant by it. Supposing London were destroyed and dug out after a lapse of 2,700 years, we might just as well jump to the conclusion that London was Nineveh because an Assyrian record is found in the British Museum giving an account of that ancient city! If we take the account of Moses merely as an historical fact, we cannot but regard his statement to be a correct one from his other geographical notices. We are told (Genesis x.) that Resen was "between Nineveh and Calah, the same is a great city;" whereas the present Caleh Shirgat is about 40 miles to the south of Nimroud, and the latter place is only about 18 miles to the south of Nineveh proper. As for the theory that the present ruins of "Rahaba," near the modern town of Moyadeen, are the old Rahaboth, it is quite untenable, because the style of the architecture of "Rahaba" belongs to that of the Sassanian period, or the last Arab conquest, and has not the least resemblance to that of Assyrian antiquity. Moreover, Rahaba is situated on the right bank of the Euphrates, about 250 miles to the northwest of Babylon and 150 miles to the southwest of Nineveh; and whether Nimrod, or Asshur, was the founder he could not have built three cities within the space of sixty miles and proceeded to the Syrian desert to build the fourth! My idea is that *Calah* of the Scripture is Caleh Shirgat, Resen is Nimroud, and Rahaboth is a site which I partially excavated on the right bank of the Tigris about forty miles from Nineveh and twenty from Caleh Shirgat; or else if Nimroud is really Calah, as Assyrian scholars assert, then I fix the site of Rahaboth at Yarimja, about three miles to the south of Nineveh.

I believe that in the time of the Prophet Jonah, Nineveh took in Nimroud, on the south and Korsabad on the north. The circumference of the whole space between would be about sixty miles, which tallies exactly with the account of Jonah, that "Nineveh was an exceeding great city of three days' journey," reckoning twenty miles a day, according to the way a pedestrian travels in that country.

As regards Babylonian history, I find that we can rely with any degree of trust only on the sacred record for its origin. It is said also in the tenth chapter of Genesis, that the beginning of the kingdom of Nimrod, "the mighty hunter before the Lord," was "Babel, Erech, Accad and Calah in the land of Shinar." Different travellers and savants have puzzled their heads from time to time in trying to fix different spots for these localities, but we can no more place any reliance in their hypotheses than in trusting to the exact location which modern critics have given to certain scenes connected with our Lord's mission on earth. The only place we can safely accept as authentic is Babylon, because both history and tradition from time immemorial pointed to the exact locality. Erech might have been situated near Bagdad on the left bank of the Tigris, where there are a large number of artificial mounds, because even now the Bagdad district is called Eraach or Irak.

The French and the British have been exploring Babylon and its surroundings from time to time for the last fifty years, and I myself have been digging there with success ever since the beginning of 1878. I discovered one palace at Birs Nimroud (the supposed site of the Tower of Babel), which was built by Nebuchadnezzar, and was occupied by Nabonidus the usurper, when Cyrus took Babylon. Belshazzar, his son, was then acting as vicegerent at Babylon, where he met with his death after the impious feast "to a thousand of his lords."

Two difficulties have been solved lately in connection with the mention made in the fifth chapter of Daniel of Belshazzar and Darius, as being one the King of Babylon, and the other King of the Medes; while profane historians tell us that Nabonidus and Cyrus were the rival sovereigns. It is now proved, beyond doubt, that though Nabonidus was the actual king when Babylon was conquered by the Medo-Persian army, he was absent at the time, and his son Belshazzar, who is called in the inscription Bil-shar-uzur, was in the actual command of the army, and discharging the functions of sovereign. Then, with regard to the name of Darius, the king mentioned by Daniel instead of Cyrus, it has been proved that though the latter was in command of the army he was really not the king, but a mere satrap or viceroy of his grandfather Astyages, who was the real monarch, and was called "Darius the Mede." Syncellus, the Grecian historian, confirms this in calling the Cyrus of Herodotus and Xenephon "Darius Astyages," which proves that at his time there must have been some record extant which explained these differences. In reference to the allusion made in the same chapter in Daniel about Belshazzar being the son of Nebuchadnezzar, when he was really known to be the son of

Nabonidus, it is easily explained by the fact that Nabonidus might have married one of Nebuchadnezzar's daughters, which made him, according to Oriental phrase, a son of his maternal grandfather.

The reward promised by Belshazzar to Daniel, mentioned in the sixteenth verse of the fifth chapter of his book, that if he interpreted the mysterious writing on the wall he would clothe him with scarlet and put a chain of gold about his neck, and him make the "third ruler in the kingdom," proves that he was not the first potentate, and consequently not the *ipso facto* king.

In Babylon itself there was no regular structure discovered, as the whole place was so thoroughly destroyed that if it was not from the account we read of it in the Bible and ancient history, no one could credit the possibility of such a magnificent city ever having existed there. The whole place seems to have been destroyed by an earthquake or some other overthrow. Nothing can now be seen of that once upon a time called in Holy Writ "the glory of kingdoms, the beauty of the Chaldee's excellency," but heaps of rubbish intermixed with broken bricks, pottery and enamelled tiles of different colors. The latter are supposed to have embellished the famous palace of the Kings of Babylon, where Belshazzar held his last ill-omened feast. The place is now called "Imjaileeba" by the Arabs, which means overturned—a very appropriate name for it! A Christian traveller cannot help being struck with awe when he compares the denunciations of the prophets with the utter desolation of the metropolis of the Old World. In the fifty-first chapter, forty-first verse, Jeremiah prophesied against it in the following majestic words: "How is Sheshach taken! And how is the praise of the whole earth surprised! How is Babylon become an astonishment among the nations!" Then in the forty-fourth verse of the same chapter it was decreed thus: "And I will punish Bel in Babylon, and I will bring forth out of his mouth that which he hath swallowed up, and the nations shall not flow together any more unto him! Yea, the wall of Babylon shall fall." Shaishak being one of the mighty goddesses of Babylon, her image was doomed to perish, and such was also the fate of Bel. Herodotus in Clio, chapter 183, alludes to this chief god of the Babylonians, whom the whole world used to worship and offer precious gifts to as follows: "Below in the same precinct there is a second temple in which is a sitting figure of Jupiter (Bel or Belus), all of gold. Before the figure stands a large golden table, and the throne whereon it sits, and the base on which the throne is placed, are likewise of gold. The Chaldeans told me that all the gold together was eight hundred talents' weight. Outside the temple are two altars, one of solid gold, on which it is only lawful to offer sucklings; the other a common altar, but of great size, on which the full grown animals are sacrificed. It is also on the great altar that the Chaldeans burn the frankincense, which is offered to the amount of a thousand talents' weight every year at the festival of the god. In the time of Cyrus there was likewise in this temple the figure of a man, twelve cubits high, entirely of solid gold." This idol was most probably the Sheshach of Jeremiah, as the other was a representation of Bel or Merodach.

The temple which Herodotus mentions must have been situated at Birs-Nimroud, the Borsippa of the ancients, and what has always been supposed to be the site of the Tower of Babel. Formerly most of the writers upon the history of Babylon placed it at the mound called by the Arabs "Babel," and which Mr. Rich and others erroneously styled "Imjaileeba;" but since my discovery of the palace where Nabonidus was residing at the time when Babylon was captured, and the finding of four wells at Babel, which proved it to be the site of the hanging gardens, it is concluded that the famous temple was situated at Birs-Nimroud. All the famous idols of the Babylonians have been swept off the face of the earth and not a vestige of them is seen anywhere; I mean the stone idols, of which there must have been a large number; but Jeremiah's prophecy cannot fall to the ground. He says in the fiftieth chapter, "Declare ye among the nations and publish and set up a standard. Publish and conceal not: say Babylon is taken, Bel is confounded, Merodach is broken in pieces, her idols are confounded, her images are broken in pieces."

As for Babylon itself, Herodotus gives the following description of it: "The city stands on a broad plain and is an exact square, a hundred and twenty furlongs in length each way, so that the entire circuit is four hundred and eighty furlongs. While such is its size, in magnificence there is no other city that approaches to it. It is surrounded in the first place by a broad and deep moat, full of water, behind which rises a wall fifty royal cubits in width and two hundred in height." The above description makes the size of Babylon, in the time of Herodotus, about the fifth century before the Christian era, about sixty miles in circumference, or as large as Nineveh; but the difference between those two great cities was that the former was almost square and situated on either side of the Euphrates, while the latter was oblong and occupied the left bank of the Tigris. But the width and height of the wall that surrounded Babylon was far greater in dimension than that of Nineveh. According to the account given by different historians, the height of the wall of the former city was about three hundred and fifty feet by ninety feet wide, while that of the latter was about one hundred and fifty feet high by fifty wide. Diodorus Siculus informs us that the wall of Nineveh was so broad that "three chariots might be driven together upon it abreast," and that of Babylon was wide enough to allow six chariots to drive on it side by side. Whenever I visit the ruins of Babylon I always wonder whether the grand description given to us by ancient historians of the size and magnificence of the capitol of Chaldee was not mostly fabricated, or, at all events, greatly exaggerated; but when I remember what the Prophets have foretold about the utter annihilation of the Babylonian monarchy, it makes me realize the awful visitation of God's wrath upon the wicked and rebellious nations who follow their evil devices and forget their heavenly benefactor! The broad walls of Babylon are alluded to by Jeremiah in his fifty-first chapter, where it is written: "Thus saith the Lord of Hosts: the broad walls of Babylon shall be utterly broken and her high gates shall be burned with fire." There has been no lack of eminent geographers and scientists who have puzzled their brains from time to time to trace the exact outskirts of the city or its walls, but they never came to any tangible result. Indeed, I myself tried over and over again to find even a remnant of a few feet of that famous wall, and could not see any signs of its existence, as the destruction was quite complete. Herodotus tells us in Book I., chapter 179, that in the circuit of the wall were "a hundred gates all of brass, with brazen lintel and side ports;" and in another place, Book III., chapter 159, he relates that Darius, for the purpose of preventing the Babylonians from rebelling again, destroyed the wall and tore down all the gates.

The vitrified portion of the tower, which I have already mentioned, named by different historians and savants as Borsippa, Temple of Belus, or the Tower of Babel, but which is now generally styled "Birs-Nimroud," which can be seen from a distance of about twenty-five miles, strikes one with great amazement and wonder. All travellers attribute the cause of the vitrification to lightning or artificial heat, but in my opinion neither the one nor the other originated the extraordinary phenomenon. Indeed I am supported with regard to the effect of lightning by scientific gentlemen who have given it as their opinion that lightning could not vitrify a brick wall deeper than, at the most, an inch; whereas the vitrification I allude to penetrated between ten and fifteen feet large masses of brick masonry cemented together as if they were one whole piece of rock. We are told in the Talmud, that "the tower was exceedingly tall. The third part of it sunk down into the ground, a second third was burned down, but the remaining third was standing until the time of the destruction of Babylon." At present there is no sign of vitrification on any part of the remaining edifice, but the huge boulders, which are vitrified throughout, are scattered about the tower and look as if they do not belong to the place at all. They are so hard that when I tried to have a huge piece broken to bring to the British Museum, I failed to do so until I obtained the services of a competent mason, who managed to break the two pieces after having blunted half-a-dozen of his iron tools.

The year before last I was fortunate enough to discover the site of ancient Sippara, which is the same as Sepharvaim of the Bible, wherefrom I obtained for the British Museum a large number of inscriptions giving the history of the place and revealing to us the annals of the reign of Nabonidus and the Chaldean canon of the worship of the Sun-god, the patron deity of the place. I was unfortunately stopped from making a thorough examination of the mound by the Ottoman authorities, as the Porte refused to renew the British Museum Firman after the last was expired in July of last year. I feel convinced that if we are allowed to resume our work there we shall come upon more valuable Chaldean remains; and it may be we shall yet find some records which would touch upon the Deluge and dispersion of mankind in a larger sense than we have hitherto found.

Chaldean and Grecian historians tell us that Noah had lived at Sippara, where he had buried the antediluvian records. He was known to the ancients by the name of Xisuthros; and as there was no resemblance between the two names those who would be skeptics thought the history of the Deluge a mere fable invented by cunning Priests to beguile the ignorant! But now the buried records of Gentile nations come forth to testify to the truth of the Bible and shame those who are wise in their own conceit, but foolish in the eyes of God! The cuneiform writing tells us that the Lord of the Universe had destroyed all life by a great flood on account of the wickedness of man, and had saved a good man whom the Assyrians called "Kha-sis-adra." The meaning of this word we find to be "him who escaped the flood," and it seems that Abydenus, the Greek historian, who wrote about the deluge from Berosus 268 B. C., corrupted the word into "Xisuthrus," and what makes it still very unlike the Semitic in sound is the form of the Greek termination. The Gentiles could not have given a more appropriate nickname or title to Noah, the same as that given to Abraham by the Canaanites when he crossed from Mesopotamia, as the root of the word Hebrew in the Semitic languages is "Abar."

There is another important discovery which has been made lately by the able Assyrian scholar, Mr. Theophilus Pinches, of the British Museum, in connection with the mention made in the second chapter of Genesis of one of the four rivers of the Garden of Eden, called "Gihon," wherein it states that it "compasseth the whole land of Ethiopia," or Cush, an allusion which has been cavilled at by different sceptics to discredit the word of God. As *Cush* was only known to historians to mean Ethiopia, and Ethiopia was in Africa, they thought, therefore, that it was beyond a man's comprehension to understand how a river supposed to have sprung from the Assyrian or Armenian mountains could run round Ethiopia, crossing the Arabian desert, passing through Egypt, and ascending mountains three and four thousand feet high! Here, again, scepticism has been defeated by the discovery of a cuniform terra cotta tablet on which another *Cush* is mentioned as having been known to the primitive nations to exist in Asia Minor, which takes in the province of Cappadocia. This tablet, which is at Paris in the Bibliothéque Nationale, has been read by Mr. Pinches, and the following is his remark upon it:

"The question of the situation of the land of Kusâa, as well as that of the form of the name, when used to denote the country itself, seems to be set at rest by one of the tablets from which the above list of names of towns is taken. This tablet, which is the first published on Plate 53 of the work above referred to, contains, in the second column of the obverse, the names of the cities and countries in the neighborhood of the Taurus range of mountains, and includes (1–13) the land of the Kûsu. It is evident, therefore, from the connection in which it occurs, that we are to understand by this Cappadocia, and not Ethiopia. This identification sheds at once a new light on two important passages in the Book of Genesis, the first of which is in Chapter ii., verse 3, where the river Gihon, which encompassed the whole land of Cush, is mentioned; and the other in Chapter x., verse 8, where is recorded the fact that Cush begat Nimrod. Now, in both these passages it has been supposed by some scholars that the land of Cush here mentioned is the same as Ethiopia; but it seems to be much better to identify it in both cases with Cappadocia. The question of the position of Paradise is also connected with these identifications on account of the removal of the river Gihon up thither.

"Another most interesting matter is the double-name system thus brought to light, the Musri of the Black Obelisk (a tribe to the north of Assyria), and the Musri in Egypt, the Cush Cappadocia and the Cush Ethiopia, the Makan and Melukha in Babylonia, and the districts of the same name in Egypt, all pointing to a connection in the minds of the people of the ancient world, and opening out interesting ethnographical connections."

I must now touch upon the religion of the primitive Babylonians and Assyrians.

We are told by Sir Henry Rawlinson that the first and chief deity of the Assyrians was Asshur, the son of Shem, who was supposed by some writers to have been worshipped by the Assyrians under the name of "Nisroch." He used to be styled "the great Lord," the "King of all the Gods," and "he who rules supreme over the gods." It appears that every god was associated with a goddess, and the superior female divinity, Beltis or Mylitta, "the mother of the gods," was sometimes called the wife of *Asshur;* but this Sir Henry Rawlinson considers hardly tenable, as the real "husband of Beltis" and "father of the gods" was "Bel Nimrod," while the wife of *Asshur*, who appears in the list of gods, was called "Sharuba," to whom Tiglath-Pileser II. offered sacrifices after his conquest of Babylon.

It is said that he had no temple excepting at Caleh Shirgat, the first city he founded, which was named after him. He was considered the head of the Pantheon, of too high a rank to receive the homage of his votaries in a particular or special temple, nor was there any idol found named after him; and it may be that all the temples throughout Assyria were open to his worship. Asshur was looked upon really as the supreme being by the Assyrians, and worshipped accordingly. The name of Asshur has ever been associated in Northern Mesopotamia with the tract of land which was considered in classical days Assyria proper. Even now Mossul, with the country around, is called *Athoor* (a corruption of Asshur), which takes in Koyunjik, Khorsabad and Nimroud, which were reckoned in the time of the Prophet Jonah within ancient Nineveh. Asshur was, as far as the Assyrians were concerned, all in all to them, but his name was almost unknown beyond Mesopotamia.

The second God was "Anu," signifying "the God," and was no doubt amongst the primitive Babylonian deities to whom Sargon dedicated the western gate of the city, in conjunction with Astarte.

The third deity was named "Bil," signifying "the Lord," and answers to the great father Jupiter of the Romans. Some critics suppose that *Bil* was *Belus* of Babylon and others take him to be "*Bel Merodach.*" It has been surmised that this idol was the representation of Nimrod, "the mighty hunter," who was doubtless worshipped by both Assyrians and Babylonians. The temples of this deity were not numerous. He had four *arks* or tabernacles, but only one temple at Nimroud, supposed to be the Calah of the Bible.

The fourth was named *Hea* or *Hoa*. Although corresponding with Neptune and in many respects exercising the same functions, he was not strictly speaking, "the God of the Sea." That title is never found amongst his epithets, and his functions were to preside over "the abyss" or "the great deep." This God was very extensively worshipped and had shrines in different parts of Assyria and Chaldea.

The fifth was a Goddess named *Mulita* in Babylonia, and Belta or Beltis in Assyria. Both mean "the lady" or "queen." She was wife of *Bel-Nimrod*, and her titles were "the wife of Bel-Nimrod," and "mother of the great Gods," but in our passage she is called "the wife of Asshur." She was the famous Dea Syria, who was worshipped at Hieropolis. She also had numerous temples both in Chaldea and Assyria. She is supposed to have been worshipped also in Armenia.

The sixth deity is Iva or Æther, who presides over the atmosphere and his titles are "the Lord of Canals," "the Minister of heaven and earth." Sargon, who dedicated to him the northern gate of Khorsabad in conjunction with "the sun," invokes him as "the establisher of canals for irrigation," and Nebuchadnezzar employs almost the same epithets in alluding to his temple at Babylon, and calls him "lord of the air."

The seventh deity was the sun, known as "Shamas." His usual titles in the invocation passages are "the regent of the heaven and earth," "he who sets everything in motion." Most probably the Sun-god was the earliest object of Babylonian worship. He had two temples, one at Lanarka and the other at Sippara. The latter I have discovered, and I alluded to it before; but the site of the former has not yet been properly identified. The temple of Sippara or Sepharvaim was more celebrated than the rest, and it is considered the oldest of all the ancient sites. It is alluded to by Berosus in his antediluvian traditions as Heliopolis, where Xisusthrus or Noah is supposed to have buried his records before going into the ark. The male and female powers of the sun, whose worship at Sippara was celebrated throughout the East were, as Sir Henry Rawlinson relates, with more than their usual accuracy identified by the Greeks with the Apollo and Diana of their own mythology; and they are represented in Scripture in II. Kings, xvii., by the Adrammelech and Anammelech, the gods of Sepharvaim, to whom the Sepharvaites burnt their children in fire.

The eighth deity was "the moon," who was named "Sin" by the Assyrians. Nebuchadnezzar, in dedicating to him a temple at Babylon, speaks of him as "the strengthener of my fortifications." There is also an interesting mention of him on a Khorsabad cylinder, which, according to Sir Henry Rawlinson's deciphering, reads as follows: "In the month of Sivan, a month under the care of the great lord, the wielder of the thunderbolts, the supporting architect, the guardian of heaven and earth, the champion of the gods, the moon-god, who is next in order to Anu, Bel-Nimrod, Hea, and Beltis, I made bricks and built a city and temple to the god of the month Sivan of happy name." Nabonidus, the last of the Babylonian kings, exalted the moon-god more than any others, for he writes of him, "the chief of the gods of heaven and earth, the king of the gods, god of gods, he who dwells in the great heavens." There were several temples erected for him in Chaldea and Assyria. In the former province they were at *Hur*, at Maggayir below Babylon, at Borsippa, and at Sepharvaim; and in the latter they were at Khorsabad and Calah. The same god was worshipped under the same name at Harran as late as the sixth century of the Christian era.

The next in degree were five minor gods, named respectively Nin-ip, Bel-Merodach, or the planet Jupiter, Nergal or Mars, Ishtar or Venus, the Ashoreth of Scripture, and Nebo or Mercury. The functions of the first god were to watch over the brave, and he was called "the champion," "he who strengthens all the hearts of his followers." The second was "the source of power and blessing," and he was generally called "the sage," or "the old man of the gods." The third was the god of the Cuthites, as he is mentioned in Scripture, and his peculiar duties were to preside over the chase and war, and he was in consequence called "the god of the battle and of the chase." Sennacherib is said to have built a temple to this god at Sharufkhan, on the north-western limit of Nineveh, of which that monarch makes the following mention on a slab found at that mound: "Sennacherib, King of Assyria, had raised a temple named Gallumis in the city of Tarbiz, to his lord the god Nergal." The fourth was a goddess who was called "the queen of victory," "the avenger of battles," and "the fortunate" or "the happy;" and both Sennacherib and Assur-bani-pal call her "the goddess of war," and "the goddess of the chase." The fifth and last of the minor deities was invoked as "the holder of the sceptre of power," the god who teaches and instructs. The statue of this god I discovered at Nimroud executed by a sculptor of Calah for Pul and Semiramis on whose breast there is an inscription containing the following epithets: "the inspector over the heavens and the earth," "he who hears from afar." Nebuchadnezzar ,who was under his special protection, as his name signifies, calls him "the inspector over the heavens and earth, who has given the sceptre of power into my hand for the guardianship of mankind."

The most striking representation of the devotional rites of the Assyrians in the time of Shalmaneser is shown on the brazen gates of Balawat, which I have already alluded to. The king (supposed to be Shalmaneser himself), is represented performing the functions of a priest, and in the place where he is officiating there is the usual tablet of stone representing a deified king, resembling the rock tablets of Bavian in Assyria, and Nahr-el-Kalb in Syria, near Beyrout. The king seems to be assisted by a priest in offering incense before the usual Assyrian symbols, and two attendants throwing shoulders of a sacrifice of either a ram or a bullock into the water as thank-offerings to the elements, either sea or river. In other places other attendants are represented bringing kine and sheep to offer as sacrifice; but the whole scene is so wrapped in mystery that as yet we can only glean some unsatisfactory explanations touching the mythical rites of the Assyrians. There is one clear fact, however, in connection with Assyrian worship, as represented in the bas-reliefs, that no heinous or revolting performances are shown, like human sacrifice and the worship of Venus, known to the Phœnicians and Assyrians by the name of Ashtoreth and Ishtar. This proves that the Assyrians did not follow the abominable practice of the Babylonians or that of the Ammonites in sacrificing their children to Adrammalech, Anammelech and Moloch, but merely invoked different gods to whom they attributed divine powers.

The ancient Medes and Persians undoubtedly worshipped the elements, especially the fire as a personification of the sun or the divine bestower of light on the universe, but their faith centered on the powers of "Ormuzd," the giver of light, or "the god of good," and "Ahriman" the destroyer, or "god of evil." Zoroaster manifested himself in Persian mythology in the time of Daniel, but others date his apostleship about seven hundred years earlier. He pretended a divine mission, and in many respects he established great reforms in the worship of the Magians. It appears from his account of the creation and the Psalms of David, that he was acquainted with the Old Testament. He condemned the notion of two independent eternal principles good and evil, and makes the Supreme God creator of both. As the divine glory rested on the mercy-seat, so Zoroaster made the sacred fire in the Persian temples to symbolize the divine presence.

The ancient idolatry of Egypt began in the adoration of nature, which degenerated into the worship of cats, dogs, beetles and other vermin; also trees, rivers and hills. Besides these there were three orders of gods, eight great gods and twelve lesser, and those connected with Osiris. In fact the Egyptians multiplied their divinities endlessly, as they left nothing which they did not worship, inasmuch as each province, town and village had their peculiar gods. But they all worshipped Isis and Osiris, the former represented in the form of a woman with horns like a cow, resembling the Grecian idol Io, while the latter was considered to be Bacchus. The ancient Egyptians had a regular caste like the present Hindoos. They considered all foreigners unclean, with whom they would not eat. We are told in Genesis xliii., that when Joseph ordered his servants to set bread for his brethren, it is related that "they set on for him by himself, and for them by themselves, and for the Egyptians which did eat with him by themselves ; because the Egyptians might not eat bread with the Hebrews ; for that is an abomination unto the Egyptians." Herodotus tells us that the Egyptians "one and all venerate cows much more highly than any other animal." This peculiar veneration to kine is still very much adhered to in India.

Amongst the Arabians, Syrians, Phœnicians, Amonites, Moabites, Canaanites and other nationalities between Egypt, Chaldea and Assyria, hundreds of other local idols were worshipped, but it seems that the most prominent amongst them were Baal, Moloch, Chemosh, Ashtoreth, Dagon and Rimmon. To the first three idols many and many an innocent child was sacrificed as burnt offerings, some of whom were of the noblest blood, like the son of Mesha, King of Moab, the son of Manasseh, King of Judah, and the two hundred Carthaginian children who were brutally offered to appease their fictitious gods. It seems that the Sun-god was universally worshipped under different appelations all over the world, and the adoration of the sun was the earliest idolatry that brought on the awful estrangement between man and his Creator. The wicked Manasseh, King of Judah, went so far as to build "altars for all the host of heaven in the two courts of the house of the Lord," and he crowned his folly by causing his son to pass through the fire.

Having touched in the beginning of my lecture upon the Christian nationalities existing at present in the lands of the Bible, I must say a few words in reference to their creeds and the nomenclature by which they are distinguished. Firstly, there are the Chaldeans, who are now all Roman Catholics inhabiting Bagdad, Mossul, Darbekir and a large number of villages in Assyria proper. They claim to be descendants of the ancient Chaldeans or Assyrians, and the primitive Christians ; and though their pretensions to Chaldean descent have been disputed by men who know as little about it as the man in the moon, there is no reason why those people are not the offspring of the Old Chaldeans, as they are admitted to be of the Assyrians. Not more than one hundred years ago, the Papal doctrine was not acknowledged generally by them, but they adhered to the same belief as the present so-called "Nestorians," an epithet which was given to them by their enemies, because they held the same dogmas which Nestorius defended, and in consequence of which they considered him unjustly and shamefully treated by his antagonist Cyril. There are some Chaldeans also in the west of Persia, and they have some co-religionists in Malabar, on the southeast coast of India. The Nestorians occupy partly the Assyrian and partly the Koordistan Mountains, and also Western Persia, and they are quite separated from their former co-religionists on account of the latter having embraced the Romish tenets.

Of all the Christian sects in the east they are considered the most pure and evangelical, in consequence of which they have been styled by missionaries who have visited them as "Protestants of the East." They do not practice auricular confession, and administer the Lord's Supper in both kinds, both to the priests and laymen; and with the exception of the plain cross they do not allow in their churches any pictures or images. Their priests marry the same as laymen; and not many years ago even their Bishops were allowed to marry. They allow divorces when a woman has misbehaved herself, and the innocent party is permitted to marry again. They believe in two natures and two persons in our Lord, but in every respect they believe in the divinity of Christ as any orthodox Christian does, though their illiberal Christian enemies have proclaimed the contrary. They are one and all anxious to be amalgamated with the Church of England, as they are strictly Episcopalians; but though no less than four Archbishops of Canterbury and York, and a large number of Bishops of the Church of England, have interested themselves about them, no union has as yet taken place.

The bulk of the Armenians who belong to the Monophysite church, inhabit the mountains of Armenia, and are also to be found in a large number in Asia Minor, Syria, Mesoptamia; and Constantinople; but there are none in Assyria. There are also not a few in Russia and Persia; and of all the Christian inhabitants in Asiatic Turkey they are the most numerous, the most industrious, the most prosperous, and the most progressive, as they have shown themselves in Russia, India, and also at Constantinople, where they have found a scope for their brains without being hampered by ill treatment and persecution. There are some Armenians who have embraced the Romish faith, but they are not very numerous.

The so-called "Syrians" are merely a religious community divided into two sects, one following the tenets of Rome and calling its members "Catholics," and the other, which is the largest section of the two, being named "Jacobites;" called thus after the great reformer "Jacobus Baradeus," who flourished in the sixth century. They are found in Assyria, Upper Mesopotamia, and Syria; and they have also some followers on the coast of Malabar. They claim their ecclesiastical inheritance from the ancient Syrian Church; and, consequently, their patriarchs have always retained the name of "Ignatius the Patriarch of Antioch!"

In faith the Jacobites are Monophysites, and, with the exception of the difference of their nationality, language, and peculiar rituals, they are in every respect of the same communion as the Armenians, Copts, and Abyssinians. The originator of these sects was Eutychus Abbot, of a Constantinople convent, who in opposition to the doctrine of the Nestorians' so-called heresy, which kept the two natures in Christ almost separate, rushed into the opposite extreme and taught that there was only one nature in Christ, that is the Divine. To show how absurd the theological discussion of the age was, both the Nestorians and Monophysites hold as the foundation of their faith the Nicene creed, the doctrine of a trinity of persons in the godhead, that the word was made flesh; that Christ was truly God and truly man united; and that after the reunion of the two natures he was one person. The nationality these people assume is unknown in the East, as I said before that the word "Syrian" means nowadays merely a Christian community. Herodotus tells us that the "Assyrians" were called by the Greeks "Syrians" and I have no doubt that before the heresies of Nestorius and Eutychus came into existence the so-called Syrians and Chaldeans or Assyrians were of one nationality.

The third section of the Monophysite Christians are the Copts who are to be found only in Egypt. They are like their co-religionists woefully imbued with false doctrine and superstitious rites. They practise like the Abyssinians the rite of circumcision as well as baptism. They believe St. Mark to be the Apostle of Egypt, and the founder of their church, while the Patriarch, who resides at Alexandria, they regard as St. Mark's lineal successor.

The most bigotted and fanatical sect of the Christian communities existing in Asiatic Turkey are the Maronites, who are scattered over Lebanon and its surroundings. Originally they belonged to the ancient Syrian or Monophysite church, but now they are all united to that of Rome. They also claim their ecclesiastical patrimony from the see of Antioch, and as they consider St. Peter to have been the founder of their faith, their Patriarch styles himself "Peter, Patriarch of Antioch."

The remaining Christians of Asiatic Turkey are the Greeks, both orthodox and those who have joined themselves to the church of Rome ; as the doctrine of both is too well known to require any comment from me I need not say much about them. Scarcely any members of either section are found anywhere excepting in Asia Minor and very few in Syria and Palestine. All communities seem to fraternise with them as their mode of worship pleases all.

The Mohammedans I need not speak of, as their special belief is too well known to require any explanation.

The reading of this paper drew remarks from the following gentlemen:

HOWARD CROSBY, D.D., late Chancellor of the University of New York : Mr. Hormuzd Rassam's Lecture on the Lands of the Bible is a rapid review of the Orient in its history, archæology and ethnology, showing the writer's familiarity with the land in its present aspects and general historic features, but deficient in detailed knowledge and scholarly discrimination. He confounds Shalmaneser II., of the "Black Obelisk" with Shalmaneser IV., who besieged Samaria and is mentioned in the Bible. The Shalmaneser of the "Black Obelisk," reigned a century earlier and is not mentioned in Scripture. He confounds Pul (of whom no monumental record remains, unless he be the same as Tiglath-Pileser II., as Schrader thinks) with Vul-lush III., the husband of Sammuramit (Semiramis). In one place he makes Asshur-bani-pal the last of the Assyrian kings, although elsewhere he mentions Saracus as his son and successor, who burned himself up with Nineveh. This last monarch was really Asshur-emid-elin. His identification of the Assyrian Tetrapolis is defective, as Kileh-Shergat is known to have been anciently the city of Asshur, and his statement that Assyrian scholars consider this site as Rezen is novel. His failure to recognize the identification of Warka with Erech, and Niffer with Calneh is remarkable. Still stranger is his statement that Zoroaster was acquainted with the Psalms of David. Such loose assertions preclude Mr. Rassam from being an authority in archæology.

Nevertheless he has been a most useful helper in archæological research and deserves the praise and gratitude of every true scholar. His *find* of the bronze gates at Balawat is one of the most important discoveries yet made in the region of the Tigris and Euphrates. His identification of Sepharvaim is a trophy of the first magnitude to his fame. He has been fearless, energetic and persevering, and probably there is no one to-day (since George Smith has passed away) who can be so able a worker in the Assyrian field itself as he. Others can work up the material, construct the historic record, but Mr. Rassam can best find and supply the material necessary for the Assyrian scholars. George Smith was interpreter as well as finder. Mr. Rassam has not this double character. He must play a humbler part, but yet one that has already covered him with glory. His paper is a good presentation of the general field to the ordinary hearer who has not given his special attention to this wonderful department of knowledge. Mr. Rassam can be relied upon as a faithful observer and true narrator, and what he says has the freshness of the recital of an eye-witness and an actual laborer in the field. The British Museum appreciates the value of the man and his talents, and would not willingly lose so able an ally and operator in the domain of Oriental archæology.

The development of archaic remains in the great regions of the Tigris and Euphrates has been but begun. It is only forty years since Botta and Layard began the disentombment of the Assyrian cities. Yet what has been done has immense proportions. Two languages have been found and interpreted. Histories of unknown dynasties have been brought to light. Cities, long buried and whose sites were unknown, have been exposed to view. And with all this, the Bible has been vindicated in its historic statements to the letter, and its sacred page been illuminated for the better understanding of the reader. We may rightfully expect far more in this direction, as Turkish jealousy and Arab barbarism diminish, and as men and money are more liberally offered by the Occident for thorough exploration in the Orient. May men of equal courage and force with Hormuzd Rassam be raised up to follow his example and bring up out of the alluvium of the Tigris and Euphrates valleys the monuments of ancient empires and the testimonies to the exact truth of the Holy Scriptures.

Professor FRANCIS BROWN, of the Union Theological Seminary, as follows:

The accounts which an explorer gives of his own work are sure to have great interest for all those who find importance in the results of his explorations, and no one can care for the matters with which this Institute is concerned, and think of the invaluable treasures which Mr. Rassam has brought to light, without feeling a debt of personal gratitude to him for the tireless energy and the skill which he has lavishly expended in Oriental researches. The discoverer of the library of Assur-bani-pal, with its hundreds of tablets; of the bronze sheathing of the gates of Shalmaneser II., at *Ingur-Bel* (modern Balawat), with its pictorial representations, and of the inscriptions of the temple built by Assur-nazir-pal, father of Shalmaneser II., at the same *Ingur-Bel;* of Sippara (Sepharvaim) with its great temple to the Sun-god; the discoverer who has, by these and other triumphs of successful excavation, put such rich materials in our hands for studying the life and history of the people on the Euphrates and Tigris, may be sure that he will not be forgotten. I venture to express the hope that at no distant time his experience may be again called into requisition, and the still unexamined mounds with which the valleys of these ancient rivers are scattered be made to yield up their hidden treasures.

It is gratifying to all who believe that the Old Testament contains genuine history to find such striking agreements between its historical statements, so far as they bear on Assyria and Babylonia, and the records of the monuments themselves. Not only are the Old Testament accounts, *e. g.*, of the times of Ahab, Jehu, Azariah, Menahem, etc., flooded with new light from the Assyrian inscriptions, but the historical books of the Old Testament prove a valuable aid in constructing the history of Assyria and its neighboring kingdom, an aid which, for this purpose alone, stands next to the records chiselled for us on the palace walls of Nimroud, Koyunjik and Khorsabad.

It cannot be expected that we should find all the historical questions which scholarship has been obliged to ask, in reading the Old Testament, at once answered by the results of a few years' investigation, and it would be very unwise for us to avoid looking fairly at the difficult problems which still remain.

It ought not to be forgotten that there are yet vast regions of territory, of the greatest interest to Bible students, which have as yet been not at all, or very inadequately, explored. Even in Palestine itself much remains to be done. In Egypt the case is worse; the very exultation with which the supposed identification of Pithom-Succoth was hailed a few months ago is, by the mere fact that this stands so nearly alone, a striking proof that we are only at the beginning of our knowledge of topography in a country where the Israelites dwelt some hundreds of years. In Arabia, in Mesopotamia, in Armenia, in Northern Syria, in Asia Minor; farther East, in Susiana, Media, Persia, the soil is still awaiting fresh visits from the explorer.

Besides this, discoveries have already been made which we are as yet almost wholly unable to turn to any practical use in the interpretation of the Bible or the construction of ancient history. One need do no more than mention the Hamathite inscriptions—records of a mighty but still mysterious people standing with Assyria on one side and Damascus and Israel on the other, and forming who can tell what link of connection between the Tigris and the Mediterranean?

A paper with so inclusive a title as the one just presented to the Institute ought properly to look with care and discrimination at these obscure parts of the field, as well as upon those regions where light is more abundant. But since the author has chosen to consider almost exclusively those phases of the subject with which his own labors have made him more or less familiar, we must guard ourselves particularly against supposing that there are no grave difficulties here also.

We have, for example, Babylonian accounts of the Creation, the Flood—perhaps also of the Fall of Man, but we are by no means as yet in a position to tell exactly what is the relation of these accounts to those in Genesis. Meantime, it is most important for us to emphasize the vast differences which force themselves upon our notice between the moral and spiritual conceptions of the two accounts—so similar in many details of form.

We have, to take another illustration, chronological statements in the Books of Kings, which it is at present impossible by fair exegesis to reconcile with each other and with the chronology of Assyria. The chronology of Assyria is, for some of these periods, carefully preserved, and so definitely fixed by astronomical and historical data that it is not right and fair to throw it overboard as untrustworthy; but the key to the discrepancies which appear when we look from this system to the Biblical dates of corresponding periods still eludes our search.

We have cuneiform accounts of the capture of Babylon by Cyrus, which vary in some important details from what we are told in the Book of Daniel, and even the freest critical handling of that Book cannot present any satisfactory explanation of these disagreements.

While, therefore, a wonderful advance in our understanding of the Old Testament has been made since the decipherment of cuneiform records began, there is much yet remaining to be done, and there are doubtless still buried in the plains about Nineveh and Babylon ancient documents on clay or stone which might, and perhaps some day will, resolve such difficulties as those of which I have spoken in surprising and brilliant ways.

In minute questions of philological and historical scholarship Mr. Rassam does not claim to be considered an authority, and it cannot even be said for him that he has always followed the best opinions in these matters. It is as supplying scholars with materials that he has earned his laurels, and I may venture to repeat that we shall all earnestly hope that more of these rewards are awaiting him in this his own proper field.

DESIGN IN THE ELEMENTARY STRUCTURE OF THE UNIVERSE.

[A Lecture delivered before the American Institute of Christian Philosophy at its Summer School, August 23d, 1883, and in New York, November 20th, 1883.]

BY PROFESSOR B. N. MARTIN,
New York City.

IN dwelling upon the argument for design from the minute and varied adaptations of things in nature to each other, and to the several purposes which they serve, the teleologist has heretofore based his reasonings upon the accepted idea of the fixedness of species. He has assumed that such as we find the species to be at present, they always have been from the beginning of their existence. The progress of ages, and the succession of generations, witness no material change.

The theory of evolution affirms, on the other hand, that all existing species have been derived from preceding types, by a process of gradual change and development, which is so slow as to be practically imperceptible, except after long periods of time, but which, through the minute variations which mark the successive generations, forms first varieties, then race-types, and finally new species. This theory seeks to impose a new construction upon our reasonings, in relation to the production of all those happy adjustments which have heretofore been regarded as proofs of a creative Intelligence.

The adjustments of parts and organs which we discern in nature, are, upon this theory, to be conceived as analogous to the mutual adaptation or conformity of surfaces which might be produced between two interfering branches of a tree, that had been rubbed together by the wind. Each takes shape from the other, and as a result they fit each other accurately; though the friction which has produced the conformity is not the work of deliberate design, but only the blind and unmeaning consequence of the movement of the branches by the wind.

It is at this point that the atheistical character of the evolution hypothesis—when presented, as it has often been, as a complete and adequate account of the relations of things in nature—comes distinctly to view. These have been necessarily adapted to each other, it tells us, by the friction and pressure of the struggle for life. There is no need for any antecedent plan or design. The adjustments take care of themselves. Those living things that are able to do so, shape themselves into some mutual adaptations; and the rest perish. In that constant struggle for life which goes on forever in the world of nature, the less perfect of these adjustments die out, and disappear. Those whose adaptations are more perfect and happy, succeed in perpetuating their type of organic form. All that are so successfully adjusted that they can live, survive; and as the process goes on with increasing differentiation and development, things at last come to look—especially when viewed without reference to this continuous series of preceding changes—as though they had been originally designed for each other by an intelligence that knew what it was doing, that conceived distinctly of the end to be attained, and took appropriate measures to accomplish it.

Plainly now, if this were the whole of the matter, the scheme of thought would be, of necessity, an atheistic one. Unless some other factor enters into the process, the result means nothing but a dead mechanical arrangement, no more produced by design than the groove which the rope wears in the board or the pulley over which it is constantly drawn. Into this it fits with an accuracy which, however it may look like the result of design, is merely the effect of the friction of adjacent parts, and in reality was never planned by any superintending mind.

But this mode of reasoning admits of a twofold reply. By the first of these, it may be shown that this chance self-adjustment is not capable of giving an adequate account of the facts of organic adaptation; that it is not the only factor; that *with* it, and *in* it, and especially, *over* it, there is an Intelligence which directs and controls the whole. It may be further shown that these powers and agencies which are so coolly assumed as the whole working apparatus of the system, have no existence in themselves; and that they are but the movements of the infinite Power which originally molded and governed all, and which still molds and governs and guides the alleged development.

All readers of Mr. Herbert Spencer's philosophy will recollect with what freedom and distinctness he assigns the process of development, and indeed all the processes of nature, to the activity, not of the specific forces of matter, but of the infinite force. The doctrine of the persistence of energy—which forms the latest result of physical speculation—denies entirely the possession of inherent powers to the specific objects of nature, since their force is perpetually changing into something else, and vanishing from our grasp and our recognition. The only force existing is that which fills all the spaces of the universe with its ever equal and unfailing energy, the permanent and changeless force of the infinite cause.

In this view of it, the process of evolution is no self-sustaining activity which material things can, and do, carry on by their inherent forces, but a work of the Infinite power, an operation of the primordial and inexhaustible energy of nature or the *cosmos*, whatever that may prove to be, described for the present as the *unknowable reality*. This philosophy of the subject, which refers the whole evolutionary process to the agency of the Infinite, points so distinctly to the existence of a great first cause, that the scheme ceases to be directly atheistical, however in other respects inadequate.

The second mode of reply consists in showing that the principle of a creative design is equally observable in those permanent arrangements of the system which are absolutely primordial; that it is as characteristic of that original constitution of the globe which is incapable of modification or development, as of those slowly changing organic adjustments which it is adduced to explain.

The former of these two methods of reasoning has been employed by a number of writers, and with various degrees of ability and success; and upon that I do not propose to enlarge. The second is less familiar, and affords a mode of reasoning which possesses much interest and affords a conclusion of great weight—and it is to this that I now ask your attention.

My object then will be to trace arrangements expressive of design, not in the field of organic and sentient existence, but in the unchanging constitution of the globe itself. To the philosophy of such arrangements, wherever occurring, has been given the name of *teleology*, the science of end and purpose in nature, and the particular topic of my inquiry may be described as "Teleology in the realm of the Inorganic."

Many manifestations of design, endless indeed in number, have been traced in the specific structures of animal and vegetable life. Each minor part of an animal subserves the uses of the greater parts; and each particular structure exists to promote the convenience and advantage of the whole. The eyelids are to protect and shelter the eye; the eye is to guide the movements of the hands and feet; these latter are to obtain shelter and food for the whole body. Each organic species, too, serves the interest and benefit of the rest. The vegetable is designed to minister to the support and growth of the animal; and one animal species exists to supply food to another. Each species sustains helpful relations to various others, and contributes to the advantage of the great whole. But the comprehensive system of the globe itself—what is the end or purpose of that? We see that, in the economy of nature, part ministers to part, the less to the greater, and the greater part to that still greater, or to the combined whole; but to what is the whole itself subservient? Is there any discernible purpose in that?

To such a question, no thoughtful man will have any difficulty in giving a satisfactory answer. The purpose of the earth as a whole can be no other than to furnish a field for the development of the human race in culture and civilization. Man, at the lowest view of him, is nature's chief product. He dominates and crowns the whole. Wherever he goes the infinite variety of the wild tribes around him ceases and disappears. He on the other hand is sufficient for himself. He multiplies himself and possesses the earth. Wherever he exists, save in his lowest and most animal condition, his reasoning and thinking mind absorbs, or repels, all else. Speaking from this lowest point of view, of man merely as an animal, the design of nature can be nothing less than this—to provide for the sustenance, development and multiplication of this noblest of the animal tribes. But there is a higher point of view. Man is not only animal, but rational. He possesses an intellect capable of cultivation and improvement, a social nature capable of enjoyment and influence, with a moral and spiritual nature adapted to indefinite expansion and elevation, in the thought of the Infinite and the Eternal.

The earth, then, we say, was designed to afford an opportunity and a means for all this enlargement and elevation. In other words, *it was intended to furnish a theatre for a fine social and moral development of the human race, in a high civilization.*

Now can this idea be vindicated? Are there grounds for affirming that there is, in the inorganic structure of the globe, a designed adaptation to this great end? Let us see.

How then could such a design—supposing that it did exist—express itself in nature? One method of such expression is conceivable, and only one. If such a purpose existed in the creative mind, it could find expression only by the provision in the constitution of the globe for the functions of such a society. The argument is a very simple one, and the principle of it may be illustrated by its obvious analogies to the other facts about which we have occasion to reason. Suppose, for instance, that the question were about the functions or design of some noble edifice—how would it be determined? Plainly by the provision therein contained for the accomplishment of its object. If it were found on inspection that one room contained a great variety of surgical instruments, another an ample supply of medicines and drugs, a third a collection of medical books, and a fourth a number of cots or beds, no one would doubt that a building thus adapted in all respects for carrying on a certain series of curative processes, had been designed for a hospital.

If one of us were to prepare a building for an astronomical observatory, with ample power to adjust it to its end, he would build it with a central pier for the support of a telescope, and with a revolving dome to afford facilities for viewing the heavens. He would supply it, moreover, with approved instruments for carrying on all the processes of astronomical research. And, on the other hand, an apparatus of such arrangements would attest at once, to an instructed mind, the purposes of its architect and founder, with a distinctness and certainty admitting of no mistake. The provisions embodied in the structure and furnishing of such an edifice, would plainly express the character of its design.

If, then, an intelligence kindred to our own had designed the earth to be the scene of a great social and moral development of the human race, we should expect to find in it some provisions adapted to that end; definite arrangements for the supply of definite wants.

A very important distinction, however, is here to be called to view. I do not speak of those provisions which are essential to man's support; these are matters of course. If he is to live, he must be able to find the means of living; the human species can multiply only so far as it can find sustenance. Food, shelter, and the essential conveniences of life, are necessary incidents of the existence of such a being as man. If the species is to perpetuate itself, and to increase, it can do so only as these conditions of existence are supplied to it. They are therefore not entitled to be regarded as evidences of forethought or design, since they are necessarily involved as elements of the problem of man's existence upon the earth.

We do not therefore allege the facts that man is supplied in the constitution of nature with solid ground to walk upon, and with water to drink, as proofs of creative wisdom. We leave all such essentials wholly out of account, and take cognizance only of provisions which, without being necessary conditions, are indications of a purpose which looks beyond mere existence to a higher development of the race.

Nor yet, on the other hand, do we take cognizance here of those facts of our condition which tend to promote our individual enjoyment. Many circumstances of this kind have been adduced as tending to show a benevolent regard for man's comfort and happiness—such as the perfumes of flowers, the fragrance and deliciousness of fruits, and the thousand pleasures which we derive from the possession of our senses, and the use of our faculties. Doubtless these may be, and ought to be, regarded as proofs of Divine benevolence, and of consideration for man's welfare on the earth. But neither does our present argument speak of these. We are not concerned to show with how many means of enjoyment, or possibilities of comfort and delight, the Creator has endowed us. We do not inquire, then, either for those things which are requisite to man's existence, on the one side, or for the gratifications which delight our senses on the other.

But I would inquire whether there are not observable provisions for that social and civilized life, which, without being essential to the animal existence of man, does yet supply to him the great means of his moral and spiritual advancement? Can it be shown that there are provisions which clearly prove that the design of the Author of Nature was the intellectual and moral development of the human soul? I am satisfied that the proofs of such a design can be very clearly and unmistakably shown; and will now proceed to adduce some of the chief circumstances which furnish them.

Here, however, another fact of much significance must first be noted, viz., that design in subjects of this nature must necessarily be self-expressive. While design in itself is purely a spiritual fact, and so not directly or distinctly visible to us, yet when embodied in material forms, in the arrangements and collocations of matter, it becomes both visible and permanent. We see clearly that such arrangements mean something; that the collocation was not aimlessly made, but expresses a purpose or design of its author. The rudest savage would understand what a stone arrow-head was intended for, and recognize the fact that it expressed an idea and a purpose in the mind of the maker. So we should understand the meaning of a fire-place, or a chimney, or a roof, as it appears visible and distinct before our eyes in a house.

It is a necessity in things, then, that they should indicate by their collocations the rational purpose which has arranged them; and no form of intelligence is more clear, or of argument more strong, than that which recognizes a design embodied in some material form.

Our position, then, is that the arrangements of nature indicate in the author of nature, the idea and purpose of man's intellectual and moral development in an advanced civilization : and of this position I proceed to adduce the proof.

I. First, then, let us notice, as an indication of design, *the provision in the structure of our globe for* FUEL.

This is not, perhaps anywhere, an absolute condition of man's existence. His constitution adapts itself with wonderful success to the varying climates of the globe. In most countries he can do without fire. The American Indian is, as he expresses it, "all face ;" he can expose his scantily protected body to cold and storm, as we do the face, without suffering. The Eskimo sits for twenty-four hours motionless in the severest cold, watching a seal-hole in the Arctic ice, and when his prey is captured, he devours it raw.

The Fuegian savages, Darwin tells us, sat at a distance in an outer circle, round the fire which the English navigators had kindled in the cold night, with the perspiration streaming down their faces from the unfamiliar and uncomfortable heat. Yes, even in the cold climates of the globe man can exist without fuel; in the temperate regions, it is highly convenient, but not absolutely essential to him; while in the tropics, he is entirely independent of it.

But for a civilized and cultured life, man needs fuel—in every country and every climate of the earth. See now, how a great physical philosopher speaks of fuel; I refer to Faraday, who has given us, in his volume on the combustion of a candle, the fullest account of it.

All our fuel is, he tells us, essentially carbon in one or other of its forms. This substance burns in a peculiar way—always as a spark, and never as a flame; and he then proceeds to refer to what he calls "its wonderful condition as respects combustion," of which he speaks as follows :*

---

* Chemical History of a Candle. Harper Bros., 1861.

"I have shown you that the carbon in burning burns only as a solid body, and yet you perceive that after it is burned it ceases to be a solid. There are very few fuels that act like this. It is in fact only that great source of fuel, the carbonaceous series, the coals, charcoals and woods, that can do it. I do not know that there is any other elementary substance besides carbon, that burns with these conditions; and if it had not been so, what would happen to us? Suppose all fuel had been like iron, which, when it burns, burns into a solid substance. We could not then have had such a combustion as you see in this fireplace. Here also is another kind of fuel which burns very well, as well as, if not better than, carbon—so well, indeed, as to take fire of itself when it is in the air, as you see. This substance is lead, "the lead pyrophorus," and you see how wonderfully combustible it is. It is very much divided and is like a heap of coals in the fireplace—the air can get to its surface and inside, and so it burns. But why does it not burn in that way when it is lying in a mass?" (Emptying the tube on a plate of iron.) "Simply because the air cannot get to it. Though it can produce a great heat, the great heat which we want in our furnaces and under our boilers, still that which is produced cannot get away from the portion that remains unburned underneath, and that portion is prevented from coming in contact with the atmosphere, and cannot be consumed. How different is that from carbon! Carbon burns just in the same way as this does, and so gives an intense fire in the furnace, or wherever you choose to burn it; but then the body produced by the combustion passes away, and the remaining carbon is left clear. I showed you how carbon went on dissolving in the oxygen, leaving no ash, whereas here (in the pyrophorus) we have actually more ash than fuel, for it is heavier by the amount of the oxygen which has been united with it. * * *

"If when the carbon burnt the product went off as a solid body, you would have had the room filled with an opake substance, as in the case of the phosphorus; but when carbon burns, everything passes up into the atmosphere." (P. 167.)

It appears from these remarks of Faraday, that there is but a single substance upon our globe adapted to serve us as fuel. To this all our fuels belong. In its varied forms of wood, peat, and coal, carbon furnishes our whole supply, both for household use and for consumption in the arts.

Now, certainly, it is a most remarkable fact that this mineral, so necessary to the onward progress of society, is stored up in the bowels of the earth in such endless quantity. The extent of the English coal formation is not great, and men are already beginning there to look forward to the time when their supply of it will be practically exhausted.

But on this continent the facts are very different from those which are alleged to exist in Great Britain. Our great Alleghany coal-field stretches along the vast mountain range so named, for not less than 700 miles; and this is but one of several areas of similar character, and of nearly equal extent. Another farther north, covers a large portion of the great peninsula of Michigan. The Illinois coal-basin occupies a great part of that large State, together with parts of Iowa and Kentucky. Beyond these, fields of similar area stretch over Kansas, Texas, and many portions of the remoter West; while on the Pacific side of the Rocky Mountains, immense basins and beds of coal extend to the farthest verge of the continent.

Upon the existence of this fuel within easy reach, one half of human civilization at the present day depends. Its use in furnace and foundry and machine-shop, supports one half of human industry in the most populous nations of the civilized world; and its employment for producing steam accomplishes the greater part of the other half of it. In England, that portion of the annual coal product which is used for motive power, adds, according to the best estimate, a force not less than that of 100,000,000 of men to the productive industry of that country, and of the world.

Now, in this singular provision of this foundation element of civilization—the only substance fitted for fuel that the earth contains—why are we not to say that we have a clear indication of a rational and intelligible design on the part of the Creator?

To this it may be replied, that the production of wood, and the formation of peat and coal, are only necessary incidents of the laws of vegetable growth. Given the existence of such an element as carbon, together with the present laws of solar radiation, and the production of wood and coal is a simple necessary consequence. This may be quite true; but it does not reach the point of our inquiry. The result depends on the occurrence, in connection with the structure of our world, of a certain amount of carbon—existing originally in the form perhaps of carbonic acid in the atmosphere. That dense atmosphere of the palæozoic times, furnished the pabulum which nourished the luxuriant vegetation of the coal period; as a greatly diminished proportion of it furnishes now the support of the more scanty vegetation of our modern era. Without that amount of carbonic acid in the atmosphere, no such coal deposits could have been formed; and the result would have been fatal to all the great mechanical civilization of our age.

Here, then, we have a definite provision, in the constitution of our atmosphere, of the one single element which could be utilized for the world's fuel. It is original and primary—in the primordial structure of the world itself—a provision for the existence of foundry and forge, of the workshop and the fireside; an intelligible provision for domestic life and for mechanical industry.

Now consider what an element of civilization is the world's fuel. Think for a moment that, as we sit here, 50,000,000 of people in our own land sit, in the full enjoyment of domestic comfort, around the *fireside*, reading by the light of burning carbon in the shape of oil or gas, books printed by steam, itself another product of the same agent—in ink formed almost wholly of carbon—and drinking in thus some of the noblest and highest elements of social enjoyment and improvement, through the unique action of this wonderful substance, stored up in the bowels of the earth countless ages before man was created. Think, too, of the vast amount of work accomplished by its agency in every foundry, in every machine-shop, in every manufactory, in every industry in short, that goes on in each of the crowded cities of the civilized world. Is this a chance result, an incidental effect of general laws, never contemplated, and never anticipated, in the formative arrangements out of which it grew? Or is it not more rationally accounted for by supposing a provision of such vast reach and ennobling influence, to be the designed work of an intelligent and creative mind?

II. A second remarkable adaptation of the same kind, next to be considered, is found in *the presence and the amount of* IRON *in the original constitution of the globe.*

There are several peculiar features which characterize this metal, and which together form in it so remarkable an adaptation to the uses of civilization that it may be called *the metal of the industrial arts.*

(1) The first of these significant adaptations is the capacity of this metal *to be welded.*

Two pieces of iron, heated to a white heat, will unite under heavy pressure into one undistinguishable mass. This peculiarity is possessed by no other of the ordinary metals. Potassium and sodium, and certain others of the rare metals, do the same thing; but potassium is so inflammable as to take fire upon exposure to the oxygen of the air. It has to be kept, in the laboratory, under some mineral oil, which shuts out the air, in order to avoid its spontaneous combustion. Of the ordinary serviceable metals, iron is almost the only one that welds.

The value of this feature is very great for unnumbered processes of familiar use. An article may be wrought in parts, and the parts, heated and brought into contact at the proper points, can be united into one by the workman's hammer. An infinite variety of work, in iron, becomes practicable by this means. Any number of pieces can be combined into one; and frames of every various pattern can be wrought, piece by piece, and put together to form a complete whole. Perhaps one of the most striking exemplifications of its usefulness is found in the process for rolling railroad iron. Five or six flat bars of iron are laid one upon another, bound together with wire, and placed in a furnace which brings them to a white heat. The mass is then withdrawn, placed on a little iron cart, and wheeled to a pair of revolving cylinders, which seize it by one end, and draw it through the narrow space between them. Another and another pair of rollers repeat the process at a continually diminishing distance; till within the lapse of a single minute this series of pressures has united, elongated, and shaped the heated plates into a compact and homogeneous rail, of the form that we so well know. The value of this capacity of iron becomes at once apparent, when we remember what a vast use there is for the product just described, in our ever-lengthening lines of railroad; and how important is the possibility of furnishing this great element of modern civilization, the rail, at a moderate price.

(2) Another feature equally remarkable, equally peculiar to this metal, and equally valuable, is the *carbonization of iron, or the production of steel.*

Think for a moment how numerous, how varied, and how valuable are the uses of that fine and precious substance, steel. All our cutting instruments, from the sharpest blade of a knife or a razor to the strongest chisels that plane an iron casting, or that smooth a granite block, are formed of this peculiar material. All our springs—from the elastic hair-spring of a watch to the stiff and unyielding support of a heavy wagon—depend on the same admirable substance. It were impossible to enumerate the different uses of this valuable product, which gives at once hardness, toughness and elasticity, to almost every tool now used by the hand of man.

(3) If we wish to get a just view of the useful qualities of iron, we must add to these remarkable characteristics the *more familiar one of casting well.*

This, though a very simple thing apparently, is by no means a universal property of metals. Some contract in cooling, while others expand too much; but iron adapts itself happily to the process of casting. It can readily be melted and run into moulds; and by this method an endless number of forms can be given to it which otherwise had been difficult or even impossible. Every one is familiar with many applications of this process; or if not, let such a person step into the nearest foundry, and witness the ease with which the most ponderous pieces of machinery are turned out—a heavy toothed wheel, for instance, several feet in diameter, the manufacture of which by hand would be nearly an impossible task—and he will have an idea of the vast advantages which this quality imparts. A single instance will illustrate its worth. The cast-iron plow, the invention of one of our own countrymen, has nearly doubled the productiveness of agriculture in every country of the world to which it has gone.

These three properties of welding, carbonizing, and casting well, so remarkably combined in this metal, certainly give to it a remarkable adaptation to the support of civilization. But these do not constitute the whole of its multiform adaptation to the uses of society.

(4) Another characteristic, of singular use and benefit, must be added before we have completed our enumeration of the valuable qualities of iron—*its capacity of becoming magnetic.*

Consider the various and far-reaching results of this peculiar and unique property. It has given to man the compass, by which we traverse the deep and survey the land, and the magnetic telegraph, by which we communicate with instantaneous rapidity all round the globe.

The oceanic commerce of the world is due, I need hardly say, to the agency of the magnetic needle. Perhaps there is no more wonderful thing, amid all the wonders of our civilization. A few careful strokes of the hammer—a temporary contact with previously magnetized iron—and your little needle acquires this singular and inexplicable property—a property which belongs to scarcely any other of all the varied substances which enter into the composition of our globe. Balance it now, by a little depression at its centre, upon a perpendicular support; shield it from external pressure and obstruction; and the marvel—the miracle we might be tempted to call it, if we were not so familiar with it—reveals itself to our view.

The trembling fibre quivers as you turn it around and around, and then settles into its proper position, with its axis parallel substantially to the axis of the earth, and its two ends pointing nearly to the two poles of the earth. Amid whatever storms or tempests, in whatever thickest darkness, in whatever realms of earth or ocean, it is fixed, constant and immutable—the guide that directs man's course through trackless wildernesses of land, and over the broadest wastes of the ocean—the great pathfinder for civilized man over the globe.

I do not wonder that the African chief to whom Livingston came, was afraid of him when he saw it. "The traveller is a bad man," said the barbarian, when inquired of about Livingston; "he is a wizard; an enchanter. He never asked his way of any human being. He had a little animal in a box; and when he wanted to know which way to go he took out his box and asked it; and the creature told him."

Or look again at its use for the accurate survey of the land.

Providence has given to us a vast continent to subdue, to settle with population, and to civilize to the uses of mankind. It stretches before us with a breadth of 1,200 miles, from the Great Lakes to the Gulf, and on from ocean to ocean, for nearly 3,000 miles. Now, it is a tangled wilderness of rock and forest; again, a boundless expanse of prairie and plains; and farther on it is a wild chaos of mountain systems and ranges, of valleys and gorges.

It is to be explored; and the dauntless explorer goes forth armed mainly with this same humble instrument—the compass. With this he traces every bend and stretch of the rivers from the mountain springs to the ocean, and maps their courses for the world's knowledge. He crosses the mountains, and discovers the passes by which the emigrant drives his wagon, laden with his household goods (or gods), from the shores of the Mississippi to those of the Columbia.

Its boundaries are to be marked out, to separate it from the territories of neighboring nations. A commissioner starts out with his little party, and traverses the wooded wilds of the Northwest, at home everywhere, and guiding his steps day by day, by the same wonderful instrument, till the forty-ninth parallel is traced and marked, from the Pacific shore to the Great Lakes.

It is to be parcelled out among millions of occupants, and made the private property of adventurous toilers who shall bring civilization to its remotest localities. Parties of surveyors divide it off, and run their meridians over it from north to south, their parallels mile by mile from east to west, till every acre of it is mapped, described, and defined; and still those blazed trees through the forest, those stones of remembrance and definition over the prairie, shall mark and define the soil through years and ages, and determine rights, and quell disputes, among the unnumbered millions of its future inhabitants.

Nor must we forget the telegraph—the latest and most signal achievement of civilization. How it stretches over the city's crowded dwellings and population, conveying information from home to home, and station to station; over the wide reaches of the country, bringing city into intercourse with city; across even the ocean, bringing remote nations to shake hands with each other beneath the sea, and send their messages of business and affection, as men say good morning to each other from door to door—nay, around the globe itself, to make all men know one another as kindred and neighbors—how surprising! how astonishing! how full of unknown and unnumbered uses for the improvement and refinement of the whole brotherhood of men!

All these strange and surpassingly fruitful agencies depend on this singular possibility—the magnetization of iron.

It becomes evident, as we dwell upon the particulars of this adaptation, that the basis of our industrial civilization is laid in the peculiar properties of this metal. It is no wonder therefore that, while in the history of our race we have a stone age, and a bronze age, civilization really commences with that which stands next in order—the Iron Age; and that which supports civilization in its beginning, supports it also in all its subsequent development. Society never gets beyond this absolute dependence upon iron.

Now the fact that this metal, so indispensable to the arts of life, is provided abundantly all over our globe, cannot but be regarded as most significant in its bearing upon our argument. Certainly it very strongly suggests the idea of a designed coincidence. No other metal is so useful, and none other is so common, as iron. Almost everywhere we discover its existence in quantities ample for human use. Its ores occur in many forms, and are of easy reduction. Speaking now of the familiar and workable metals, probably all the other metals of the globe together do not equal the bulk of its iron. It is found in every land, and exists for every race of mankind, and at every period of its history. If there are countries in which iron is unknown, as is true of the coral islets of the Pacific Ocean, they are such that in them neither could any high civilization ever arise, nor could any inhabitant ever be able to find his way to more favored realms.

It belongs in greater or less abundance to almost every geological formation.

In the earliest systems—until recently termed the Azoic rocks, those for example of the Adirondack regions—it occurs in extensive beds, one of which is 150 feet thick. In the upper peninsula of Michigan it is found on the borders of Lake Superior in beds of equal extent. In Missouri, we have those remarkable formations known as the Iron Mountains, one of which is half a mile in length and 580 feet thick, composed largely of iron ore, while a smaller mountain has a thickness of 280 feet.

The great deposit of argillaceous iron ore, in the Clinton group of rocks, extends from Central New York, southward to Alabama, and westward to Wisconsin, in vast ledges lying just beneath the surface.

The coal regions of Pennsylvania abound in equally rich deposits, of Limonite and Hematite, two of the most common and most valuable of the ores of this metal. Beds of iron ore accompany the vast coal beds throughout the whole extent of the Alleghany coal-field.

In the older rocks of North Carolina, and even in the quaternary and the superficial strata, we still find deposits of the ores of this most useful and most indispensable of all the metals. Almost every locality as well as every geological formation has its iron ores, which exist in numerous and varied forms, as if to attest the care and wisdom of the creative power, and afford evidence of the design and forethought which have furnished this essential want of civilized man with so abundant and satisfactory a supply.

We have considered two of the great means of human civilization, fuel and iron, in their several distinct adaptations to the great result, and found them in each, marked and striking. Let us now for a moment look at them in their combinations with each other.

Man first learns the use of these simple substances, next he learns to put them together. The iron originally wrought into tools, or cast by the aid of this carbon as fuel, is now employed with it still further, to aid production by their co-operation. The iron furnishes the containing vessel, the carbon is again, as ever, the fuel; and water affords the material agent. The result of their combination is the steam-engine, the great motive power in all modern machinery and production. Of this vast agency it is difficult to speak adequately. More and more it becomes the instrument of the world's work. It lifts all the ponderous weights that man needs to handle; erects all the solid structures that he has occasion to build; molds all the machinery that his genius can invent; runs all the manufactories that his skill can construct. It lends to labor harder hands and firmer muscles. It bores the shaft, it pumps the mine, it raises the ore, it dresses the coal. It ships the product of every industry, and carries it over the ocean, or bears it across the continent on its iron track. More and more it seems to intrude upon the province of human activity. It spins, it weaves, it knits, it sews; it hammers, it planes, it saws, it turns. It prints, it colors, it engraves. It works in every various material, in linen, in cotton, in silk; in wood, in leather, in brass, in iron. There is no end to its multifarious exertion and accomplishment. And yet, instead of diminishing, it actually increases, the demand for human labor. It can do the work of the hands, but not of the mind. It does but release man from the drudgery of physical exertion, and remand him to the more intellectual occupation of supervision and control. Wherever it works, there is more for human effort to do, and at better wages.

Of such an agency in society, what account shall we render? Again let me ask, is it a fortunate chance that has made the steam-engine a possibility? Is it a happy accident only to which the unbelieving philosopher owes it that he is a writer of books, and not a toiling drudge, or a half-naked savage? Is it not more rational to believe that a Divine intelligence planned this invaluable auxiliary and means of advanced civilization, and sent it on its fruitful and beautiful errand to elevate and improve mankind?

III. I pass on to notice the somewhat similar though more narrow illustration of the same principle which is afforded by *the peculiar character of another metal*—MERCURY.

The one striking feature of this is that it is a liquid, the only instance in nature of a metal which is fluid at ordinary temperatures. Almost all the others can be melted; they take this form at high temperatures. Lead liquefies at about 400° F.; iron at not far from 3,000°; but mercury is almost always fluid in the temperate climes of the earth. Only within the arctic circle, is it freely congealed; and the human eyes that have looked upon solid mercury, are few.

To the fluidity of this metal we owe its adaptation to the remarkable purposes of the thermometer and the barometer. Both depend, in their several varied forms, on the power of a fluid to transmit the pressure of the atmosphere on a bulb or an open mass of the metal, to a portion rising in a narrow tube, by which its minute variation becomes visible to the eye.

I need not attempt, either to describe, or to estimate, instruments so familar to all. The only remark that I have to make upon them is, that without these two instruments, science would long ago have been arrested and crippled. Indeed, without them it would even now be hardly possible for it to continue its advance. It is difficult to say how much of science depends upon our being able to measure accurately different degrees of heat. The science of Thermotics depends on this possibility alone; and many a nicety of scientific fact, in other departments, rests on the same foundation. In medicine, the use of the thermometer for ascertaining the temperature of a patient's system, has superseded the less accurate and less significant methods of discrimination, hitherto employed.

Meteorology too, is essentially due to these two instruments; without which indeed it could never have had a beginning.

The importance of the mercurial thermometer to meteorological investigation is strikingly shown by Mr. J. S. Mill's account of the admirable series of experiments through which the true nature of dew was conclusively established by Dr. Wells. The first point in that inquiry—so fundamental to the science of meteorology—was to determine the precise nature of the fact in question—to distinguish it from all falling of visible wet, and then to ascertain its cause. We find that all instances of the fact thus discriminated, Mr. Mill proceeds to say, "agree in one point—the coldness of the object dewed, in comparison with the air in contact with it. But there still remains the most important case of all—that of nocturnal dew; does the same circumstance exist in this case? Is it a fact that the object dewed is colder than the air? Certainly not, one would be at first inclined to say, for what is to make it so? But the experiment is easy; we have only to lay a thermometer in contact with the dewed substance, and hang one at a little distance above it, out of the reach of its influence. The experiment has been made; the question has been asked; and the answer has been invariably in the affirmative. When an object contracts dew it *is* colder than the air."

This philosophy of the formation of dew is the fundamental point in meteorological science. Every thing else depends on that; and that depends on the possibility of measuring degrees of heat in the two nearly adjacent portions of air.

Other instruments might be, and have been devised, which to some extent accomplish the same end, but they are narrow in their scope, and defective in their application. Through these two alone, science has reached its present expansion. Should we ever find substitutes for them, it will be only through the beautiful disclosures which these two instruments have made to us, of the fundamental laws of the two great subjects—heat, and atmospheric pressure. No other instruments than these answer for the general observation which meteorological science requires.

This metal has other and important uses, but herein consists its great peculiarity. It *lies at the basis of science*, as the other does of the arts. It forms no tools, and accomplishes no mechanical work; that is all supplied in the provision of iron. But mercury is an essential in every chemist's laboratory. Not only are the two remarkable applications of it, of which I have spoken, there the first of all requisites, but it serves a variety of most important and even indispensable uses. If without iron we could have few arts, without mercury we should have had little science.

Beyond this, it is valuable chiefly for its use in the metallurgy of silver and gold. It serves a peculiar and most important purpose in amalgamating the precious metals, and thus enabling us to separate them from the earthly combinations in which they sometimes occur. In this application it is closely connected with the precious metals; and merges into that subject next to be discussed.

For the scientific uses, however, which it subserves, no great amount of mercury is necessary; nor is more than one such metal important. For aught that we can see, neither science nor art would be greatly advanced by any added number of them. Had we five or six metals of this kind, each with its own specific point of congelation and of ebullition, it is not possible to see how civilization would be the gainer. One such is indispensable; more would be superfluous. Accordingly, one such metal is provided; and every want that science can suggest is supplied by the provision. How striking the harmony between the necessities of civilization on the one hand, and the intelligent understanding, the clear prevision, and the satisfactory supply of those necessities, on the other!

Nor would any additional advantage result from the presence of mercury in the world in any large amount. The small demand of mercury for scientific purposes, and for the limited uses of the arts, requires no very ample supply, even of this single fluid. Accordingly, the mines of mercury are few. There are hardly half a dozen localities in the world which produce it. Native mercury is a rarity in a mineralogist's cabinet; and the ores of it are few and scanty. The whole supply of it is yielded at present by two or three mines. Not an atom of it is to be found within a thousand miles of the spot at which we stand; scarcely, indeed, within two thousand. Surely there is again something very remarkable in the arrangement which has given us what we need, and no more, in so peculiar a respect. To say that it happened to be so, and that it is a fortunate thing for science that it did so happen, is but to evade the natural inference which these facts suggest; and can never do justice to the clear conviction which they force upon the mind, that this conformity of want and supply is something more than a happy accident.

IV. One more provision of a similar kind I must mention, *that of the* PRECIOUS METALS. For the great purposes of a medium of exchange, and of a measure of value, the precious metals are of the highest benefit. Upon the existence of gold and silver depends the possibility of commerce, as in the previous instances art and science were dependent upon the presence of iron and mercury. Without these, nothing of exchange were possible save the few barters of rude communities—a deer-skin for an arrow-head, or in a somewhat more advanced state, ten bushels of wheat for a pair of shoes. If we are able to manage without direct exchanges, by balancing debts and paying only differences, it is because we have the means of measuring values by the use of gold as a standard. A man exchanges a cargo of coal for a piano, by being able to measure each by the standard of gold. The existence of a measure of value and of a medium of exchange, are the fundamentals of any extended commerce.

Now these functions are discharged by silver and gold, the one for minor and fractional sums, and the other for larger and integral ones. Nor can we see how it were possible to devise substances better adapted to the end. Gold is imperishable; it never rusts or decays. It is divisible; you may cut it into any number of fragments, and unite them all again so as to reproduce the original mass. It is very valuable; a handful of it will purchase a family's supply of food, or of fuel, for the winter. It is always distinguishable; it can never be successfully counterfeited. What more can be conceived requisite to announce it as a divinely ordained element of man's social development? More of it would only make the dollar larger, and more difficult to transport and to conceal. If there had been less of it the value would be too great, and every little particle would have to be counted and weighed. Here again, we can conceive of no improvement. No variety of such metals could improve our means of exchange; and no increase of the amount would make any addition to its convenience for human use. Any great difference in the amount of the supply, would only diminish the utility of the provision. More of it than the actual supply, would only burden commerce: less, would only restrict it.

But I cannot pursue further the illustration of this theme; and, if the foregoing reasonings have been successful, it is not necessary to do so. The general principle is clear, simple and decisive. Human civilization requires for its development on the grand scale of our time, and of future times, the presence of certain elements, in certain amounts. From the co-operation, so to speak, of these elements, arises the most potent of the material influences which mold and form society. The industrial arts, in all their great and fundamental branches—the elemental sciences of physics and chemistry, the commercial enterprise, and the financial arrangements, of the world, these things in all their breadth and power in these late ages, the ages eminently of science, commerce, and industrial art—depend on the existence within human reach, of carbon, iron, mercury and the precious metals. When, therefore, we find those substances provided in adequate measure, though in no superfluous amounts, the question arises how has this provision been effected? To this question two answers only can be given. One is, that this singular and extraordinary coincidence of want and supply, is only the fortuitous concurrence of atoms, a chance incident, a fortunate accident; the other, that it is due to an intelligent design in the power which is the Author of Nature. The creative hand deliberately provided for the exigencies, which the foreseeing mind discerned.

Of the sufficiency of these two answers, but one judgment would seem to be possible. So many curious and felicitous concurrences, it is vain to attribute to the accidental presence in the original fire-mist out of which the universe has been formed, of these particular substances in the precise quantities most advantageous. It were as rational to attribute the admirable adjustments of the beams, planks, and spars, of a gallant ship, to the fortunate concurrence of floating timbers. In any other department of thought such an answer would be received with derision. To attribute even the simplest work of art—say, the shaping of a flint arrow-head, to such merely accidental influences, would be felt to be nothing short of an outrage upon common sense. When therefore such a body of concurrences comes to view—each carrying with it the possibility of an important element of our social state, and together forming the foundations which are indispensable to a highly civilized society—forethought and intention are as clearly indicated as they can be in any work of our human intelligence. These adaptations express a design; nor can any positiveness of assertion or any exigencies of theory, make us doubt that there was originally some adapting purpose, in a structure which shows itself so admirably fitted to the grandest of all earthly ends—the existence of civilized society itself. To say merely that fortunately things happened originally to be as they are, is simply to shut one's eyes to the felicity and beauty of unnumbered adjustments of the utmost nicety. As well might we say that the forms and tints of a great painting, which display the conception of a master mind, are simply the accidental blotches on a piece of canvass which had covered the floor of a paint store. There could scarcely be a greater outrage upon reason, than this refusal to recognize the work of reason in its highest and grandest form.

No; a nobler conception forces itself upon us. The world not merely is the abode of man, but it was designed to be such; and it was adapted to the destined end. The material of each great phase of civilization was provided of old. Every element of a high and fine development was introduced in its place. When man arrived upon the scene, he found all made ready to his hand. He had but to think and to observe, to labor and apply, and the great structure began to rise from the ground, which was to shelter and accommodate him, and be his dwelling-place through the ages. And still as it rises higher and higher upon its massive foundations, it will proclaim to all who have eyes to see its beauty or ears to hear its voice, that it is constructed on an intelligible and admirable plan, and of materials originally adapted and provided for the purpose. The many chambers of comfort and luxury, the ornaments of elegance and taste, the implements of comfort and convenience, and the enjoyment and dignity in which these many adaptations result, were sketched in the original plan of the house we live in; were provided for in the earliest preparations of our globe; and call for a reverent and grateful acknowledgment of the wisdom and benevolence of the Divine Architect.

Shall we not join that chorus of the rejoicing worshippers on high who sing the song of Moses and the Lamb, and say, "Great and marvellous are thy works, Lord God Almighty," and add with the old Hebrew psalmist from whom those words are borrowed, " In wisdom hast thou made them all."

THE EGO IN CONSCIOUSNESS.

[Synopsis of a Paper read before the American Institute of Christian Philosophy, 23d February, 1882.]

BY LLEWELYN D. BEVAN, D.D.

IN the argument which we propose to pursue there are certain preliminary considerations of an axiomatic character which it is needful to remember. In the first place, we maintain the absolute and final authority of consciousness in the determination of all metaphysical questions. A fact of consciousness clearly apprehended cannot be gainsaid; to doubt it will be not only to make science impossible, but to destroy the doubt itself. Scepticism like dogmatism must finally appeal to consciousness; and to doubt that we doubt is no less the suicide of the former than to doubt that we know is the destruction of the latter.

Even revelation itself must be subjected to the same canon. We cannot know that anything is revealed unless we are able to trust in the trustworthiness of consciousness. Revelation may therefore supply us with what reason could never discover, but it can never give us anything which contradicts a final and absolute fact in our consciousness. Universality and necessity are the tests of facts of consciousness, although language, general consent, common-sense may be appealed to as aids in the determination of what shall be considered as consciousness. Universality and necessity are the qualities of what is termed the *a priori* principle of thought. Hence these must be finally reduced to facts of consciousness as the prime data and axioms of all scientific philosophizing.

We may here insert a single caveat. Facts of consciousness are not to be limited, as by the sensational school, only to what is given in sensation and the subsequent operation of the mind upon that which the senses supply. The principle of that school, *nihil in intellectu quod non prius in sensu*, has been well completed by the clause *nisi intellectus ipse*. And it is this which the sensationalists have forgotten. That while the senses give the material of thought, the subject of thought has its own nature. The intellect may be, indeed, a blank sheet, to be written upon by any ink in any characters. Nevertheless the very substance and tissue of the paper will modify those letters and give them a certain character, and perhaps even wholly change the quality of the ink. The fact of consciousness, then, must include what the external world of sense supplies with its law, and what the internal world of reason furnishes with its law, not a whit the less impressive and necessary.

Our first principle, then, is the pollency of consciousness, but consciousness understood in no narrow sense.

The second axiom which we require, is that in the consideration of the source of any quality which is manifested by a complex condition of consciousness, if one of the members of the complex group can be shown to furnish the quality under consideration it is not necessary to affirm the quality of the other members, and it may be possible to affirm the absence of such quality. This, in other words, is the law of economy.

A third principle may be here indicated which is really a corollary of the former. When two members of a group of facts are submitted to change, and if it be found that one member is invariable, then such change as belongs to the group shall be referred to that member other than the invariable member.

Let us in the first place consider what is given us in sensation. We perceive an object—the book before me. I see it; I feel it; I run my hand along its edges; I lift it. All these and other effects upon my senses I combine, and in that I perceive the book. What are the elements, then, of this perception?

(1) The sensations.

(2) The combination of these in one object.

(3) Combination of these with the perceiving subject.

(4) The perceiving subject itself.

Or, more briefly, the state of consciousness is

The Ego, perceiving.

Something, not the Ego, perceived.

The combination of these in one state of consciousness.

Without pursuing the analysis through the steps with which you are all familiar, we at length conclude that the law or form of space which is affirmed to be necessary and universal in all perceptions of the external world is given to us in the fact of consciousnes which consists of the aforesaid elements. Now arises the question, To which of the elements is the law of space to be referred? Is it to be referred to all? If not, then to which of the three; or if to three, to which is it not to be referred?

Let us now change the fact given in consciousness. Let other objects present themselves. In every case the law of space will be found present as a form in which the object is perceived, but in each case varying—varying with the varying object; varying as the object varies. The combination of the Ego and the non-Ego will of course vary also with the variation of the non-Ego, and the only stable, invariable, independent, changeless factor is the Ego itself. The presumption, then, is at least possible that the form of space is not referable to the Ego itself, but only to the object perceived by the Ego, or to the combination of the Ego and the non-Ego in perception.

Let me next remind you of the fact of consciousness given in thought. Suppose that the senses are no longer affected by the book, but the mind having extracted the qualities of the book given in sensation, recalls them by a pure act of intellect, forms the idea of the book; in a word, thinks the book. Now here, as you are all familiar, will come in the law or form of time which is the succession of ideas. And once more we may analyze the fact of consciousness into

The Ego, thinking.

The non-Ego, thought.

The combination of the Ego and the non-Ego into one state.

Here, again, let changes take place. Let one thought succeed to another. Each begins, each ends; but this succession, the beginning, the ending which is the necessary, formal law of time, is referable solely to the non-Ego or the combination of the non-Ego and the Ego. The Ego has remained unchanged; it has not begun, it has not ended. It has been the stable, the permanent, the changeless possibility or condition of thought. Hence again we conclude that the presumption is that the Ego is not related to time or succession, which belongs, as we have seen, wholly to the non-Ego and the combination of the non-Ego with the Ego.

This presumption in either case is made absolute when we combine these two classes of consciousness and compare them.

Take the state of consciousness in sensation. Let it then change to that of thought. Let perception yield to conception, the object felt to the idea imagined. Do this rigorously, and in each case the form or law necessary for the special case ceases and yields to the other form or law. Space gives way to time, time to space. We feel in the one, we think in the other. The object, the non-Ego, has changed, but the Ego remains unchanged. Hence if the law were a necessary law of the Ego in itself purely and alone, it must be found in both conditions. We find it, however, only in its specific case, and conclude, therefore, that the Ego is independent both of space and time; that it is thinkable only out of space and time; that nothing can be affirmed of it but being, and the possibility of combination with non-Ego in consciousness. In other words, the Ego *per se* is absolute and independent.

To this brief and necessarily abstract analysis I add one answer to an objection and one illustrative confirmation. The latter, I believe, has never been noticed, at least I am unaware of the fact. But of its force I must leave you in after-thought carefully to judge.

The objection is this, that we cannot think of the Ego except in relation to time. That even if it be out of relation to space, it is yet as an object of thought as much controlled by the form of time as any object of thought. This is true, but it must be noted that the Ego is then no longer the subject of thought, but its object; and in the thinking of the Ego the state of consciousness which we have is:

(1) The Ego the subject of thought.

(2) The Ego the object of thought, and therefore in this case become the non-Ego.

(3) The combination of the subject and object.

It is true that the Ego when it is thus thought, when it becomes the object of thought, is related to time and must be. But as the thinking subject, you will observe, it here escapes the law as much as in any other case, and remains the independent and absolute entity, the mere substance of thought and consciousness, the only attributes of which are being and possibility of combination in a state of consciousness with that which is not itself. In other words, the Ego *per se* is unthinkable. But we are dealing not with the thinkable, but with the actual, the ontological; and that anything should be unthinkable is no reason for its non-existence.

(This has been clearly apprehended and fully used by Prof. Ferrier in his " Institutes of Metaphysics.")

The illustrative confirmation of the position which I take is the following: When we think of another person we always think of the personality as it has been revealed to us in bodily form, and we generally if not universally recall another by the imagination of the bodily shape with which we are familiar. When we think of ourselves, however, we never think of our bodies. Thus we think of others in space, but we do not think of ourselves in space. I merely mention this briefly as an illustration of the argument in respect of space as the answer to the objection before noted is the confirmation of the argument in respect of time.

It would be interesting to pursue this subject still further in regard to *causation*. This may furnish a topic of discussion on another occasion. Time, if of no metaphysical account, is practically of some importance.

The practical application of this subject is of great importance in one direction. I was led to the analysis by a discussion of a very different character. In dealing with the question which promises to be of large importance in the Church in the near future, viz., the destination of the impenitent and the future continuance of man, I have always used as an argument against the doctrine of annihilation the impossibility of the destruction of the spirit, from the impossibility of the cessation of its being. We may change consciousness, but we cannot destroy it. The cessation of a state of consciousness is only the beginning of another state; and for a being to cease to be, it must cease to be conscious. And the answer has always been made—If it be unthinkable that a spirit should cease to be, it is equally unthinkable that it should begin to be. In other words, the creation of the spirit is thus denied as well as the annihilation of the spirit. I felt the force of the argument, but I saw at last that it applies only to the object of thought and not to the subject, not to the Ego. In other words, the Ego is out of relation to time and space altogether. We cannot affirm that the Ego *per se* has begun or ended. We only can affirm that it is. The question, then, of the existence of the Ego *always* is irrelevant. If by eternal we mean an infinite succession of finite times, we answer that this may be affirmed of consciousness but not of the Ego, which is unrelated to time. But if by eternal, as more properly we should use it, we mean independence of time (and this is the sense in which it is affirmed of God), then we can say that the Ego is eternal, and therefore its annihilation is unthinkable, as its creation is unthinkable. It shares the Divine nature, as we are told by Scripture that the physical organization of man was imbreathed by the Spirit of God, and is thus eternal after the likeness of God himself.

This we think we have proved philosophically as well as we receive it by the authority of the word of God. Our answer, then, to the annihilationist is the following: We cannot think of the extinction of consciousness. And if you reply that then we cannot think of the beginning of consciousness, we rejoin that it begins by the transference of the consciousness of God to the organism of the creature. And this is confirmed by the ontological conclusion of our argument, combined with the declaration of the divine word. The philosophical truth makes the possibility of the understanding of the divine word.

Some of the other practical aspects of the discussion I must leave, such as the relation of the human being to the moral law. Perhaps they may be more easily considered after the discussion of causation in a similar way.

D

PAUL'S TREATMENT OF THE THEISTIC QUESTION.

BY RT. REV. BISHOP COTERILL, EDINBURGH.

THE present outbreak of Atheism assumes a flimsy disguise of Science; but, in reality, it has no scientific basis. It assumes that scientific conclusions can be proved, and are therefore to be believed; that the existence of God cannot be proved, and therefore is not to be believed. Such fallacies deceive those who are willing to be deceived ; but they must disappear if once exposed to the light. But meanwhile I know that the feeling of many of those who are endeavouring to stem the tide of evil is, that a literature specially directed against the present phase of unbelief, and adapted for the classes who are most in danger from its sophistries, is still much needed. I would venture to suggest that in a matter of such vital importance as the best method of dealing with Atheism, there is nothing that we may with so much advantage study for our guidance as the example of the first inspired preachers of Christianity to the world. The heathen world, with which St. Paul, for example, had to deal, was, at heart, Atheistic, even more than it was idolatrous. Æsthetic feelings, national prejudices, and traditional usages were in favour of the old heathen system; but at the root of much both of the sentiment and of the philosophy of heathenism there was unbelief in any true and living God. We find, however, that in addressing the heathens, the Apostle argues *from* the existence of God, and he asserts confidently that men know not only that there is a God, but also sufficient of God to recognise that idolatry is a contradiction of His being. But when we examine his language closely we find that there was always present to his own mind, as the ground of this assumption, one particular evidence of the being of God, to which he expressly refers as absolutely and completely sufficient. Whether he addresses uncultivated Lycaonians or Athenian philosophers, or is writing to Romans of their heathen fellow-countrymen, he always appeals to the visible universe as affording proofs of the eternal power and divine attributes of God, quite sufficient for reasonable man. It is not to be supposed that this great Apostle, who was certainly "abreast of the questions of the day," knew nothing of the Atheistic speculations of the Epicurean philosophers whom he addressed at Athens, or of those of the Epicurean Roman poet, which are the very type, if not the origin, of the Atheistic theories of certain modern physicists. But he evidently considered that such speculations did not touch the question at all. Atoms or no atoms, the universe could only be the result of Divine Power and Divine Reason. We cannot but conclude from St. Paul's language that he considered this witness to God absolutely unassailable. He speaks of God's Being, not as something that may be discovered, but as a manifest truth, known to all, though they may suppress and keep down their knowledge so that it fails to produce in them its proper effects. He does not say that it requires some special gift of faith in order that God's eternal power and divinity may be traced in His works; he asserts that men are without excuse if they do not clearly recognise these. We must not infer from this that there is not also in man an intuitive cognition of God by conscience and by faith; but that of which he speaks as in itself sufficient is, undoubtedly, a logical process. From the principle that there can be nothing in Nature without an adequate cause—a principle necessary to all scientific investigation—Reason concludes that the cause of the phenomena and order of Nature must be the eternal power and infinite wisdom of God. However immediate the inference may appear, it is the result of a process, the several parts of which the logical faculty can discuss. And since, according to the Apostle's teaching, the inference is not only legitimate, but one that man's reason cannot reject without self-contradiction, the result of such discussion ought to be to make the conclusion more apparently and obviously certain.—*From Address before the Victoria Institute.*

DARWIN, EMERSON AND THE GOSPEL.

[A Lecture delivered before the Summer School of Christian Philosophy, at Atlantic Highlands, 3d of August, and repeated in New York, December 11th, 1883.]

BY J. B. THOMAS, D.D.

CHARLES ROBERT DARWIN and Ralph Waldo Emerson died, the former on the 19th, the latter on the 27th of April, 1882; Mr. Emerson being the survivor by about as many days as he was the elder in years. Born in the first decade, they had both won fame about the middle, and quitted the world almost hand in hand having measured in their joint life about three quarters, of the century which they had so powerfully influenced. Many curiously coincident circumstances are disclosed in their personal history. Both came of a professional ancestry; both were at a certain period of life committed to the Christian ministry; both early became chronic invalids, and withdrew to a kind of voluntary rural hermitage, each with an egg to incubate; both reached an independent and seemingly almost identical evolutionary conception, Emerson having curiously anticipated Darwin in Darwinism, as is alleged by some twenty years.

SUPERFICIAL RESEMBLANCES.

But these resemblances are purely superficial: a deeper look will suggest contrast rather. Darwin's father and grandfather were physicians, so that his hereditary bent was scientific. From his grandfather Erasmus—celebrated already in that line, but whose merits were little appreciated by the grandson, and only tardily and grudgingly noticed in a late edition of "The Origin of Species"—he doubtless got an impulse toward the speculations which have made his own name famous, if not an inkling of the Darwinian theory itself. Emerson on the contrary was precipitated toward the ideal and contemplative life by a clerical descent reaching back through eight Puritan generations. This is a curious quarter, according to popular tradition, from which to expect an influx of "sweetness and light." Yet it is this Puritanic strain, according to Mr. Frothingham (in his "Transcendentalism in New England," N. Y., 1876, p. 222), which gave him that "serenity not jubilant," but always saying "Good morning," which was so characteristic. It is good to know from such unbiased authority, that fruit so mellow and toothsome has at last revealed the latent virtues of that crab-tree stock, so long and uniformly maligned as hopelessly perverse and sour.

That both men were once at the door of the Christian ministry, Mr. Emerson having even crossed the threshold, does not much signify. For the conception of a divine pressure on the individual conscience leading into that vocation has, in the English Church, so far been overshadowed by that of parental discretion seeking a provision for "younger sons," that it is always at least questionable whether the voice that asks admission is really saying "Woe is me if I preach not the Gospel," or rather "Put me, I pray thee, in one of the priest's offices, that I may eat a piece of bread." It does not much indicate a man's personal proclivities (nor, it may be added, compliment his supposed abilities) to have been consigned to an office, as refuse pine is given over to be ground into bungs, only because the material is capable of nothing better. Mr. Emerson, it is true, chose the ministry of himself. But how little of imperiousness and dignity, and how much of sentimental caprice invested his notion of a "Divine Call" may be inferred from the fact that the final and sufficient reason assigned by him for laying down his commission was, that the administration of the Lord's Supper which was required of him, did not "agree with his constitution."

Scarcely more of importance is perhaps to be attached to any peculiarity in the circumstances which led either of the two men so early into seclusion. Both were permitted by the possession of a moderate competence which exempted them alike from "the cares of this world and the deceitfulness of riches," and invited by their own mood, to slip away from the bustling crowd. Darwin accordingly retired to his modest country home and conservatory at Down, to ask his one persistent question of prosaic earth-worms, bugs and flowers; while Emerson settled away under the horizon at Concord, to breed a butterfly firmament "out of his own consciousness," and to persuade his rustic neighbors, with Teufelsdröckh, that "even his breeches and blanket are sublime." Darwin, as the result of his voyage in the "Beagle," became a life-long dyspeptic, but the peccant humor does not seem to have leaked through, as in Carlyle's case, into his temper or his thought. Nor did Emerson's invalidism much reflect itself in his writings. His first recoil from a vocation and from the ways of men was touched no doubt with a little sense of mortified vanity, not to say of peevishness. His Parthian verse, "Good bye, proud world; I'm going home," shot at his old ecclesiastical associates and social contemporaries as he went Concord-ward, was, while artistically worthy of all the praise it has received, almost ludicrously childish, considered as a record of experience. The "proud world" had refused to "dance" precisely to the measure he had "piped," or to "mourn" in the identical tone in which he had "lamented," and therefore he revolted and refused to play. "And so I went home to prison" sublimely said the savagely-hunted old dreamer of Elstow. "And so I went home to Concord" in a far less masculine way murmured our modern dreamer. But this mood did not last. There seems to have been "sincere milk" in the crock, that, although showing incipient tendencies to acidity, somehow corrected itself, and bred pure cream at last, when put away from jostling in the quiet cupboard at Concord, and allowed to ripen.

Much emphasis has been laid by Emerson's admirers on certain passages in his essay on "Nature," which entitle him rather than Darwin or Spencer to the credit of originality as the propounder of the evolution philosophy. "Efficient nature," he says, "publishes itself in creatures, reaching from particles and speculæ through transformation on transformation to the highest symmetries, arriving at consummate results without a shock or leap. A little heat, that is, a little motion, is all that differentiates the bald, dazzling-white and deadly-cold poles from the prolific tropical climates. All changes pass without violence by reason of the two cardinal conditions of boundless space and boundless time." "It is a long way from the granite to the oyster, and further yet to Plato and the preaching of the immortality of the soul. Yet all must come, as surely as the atom has two sides." Again, in his essay on "History:" "All the facts of history pre-exist in the mind as laws." "The primeval world—the fore-world, as the Germans say—I can dive to it in myself as well as grope for it with researching fingers in catacombs, libraries, broken reliefs and torsos." Here seem to be plainly foreshadowed Professor Tyndall's "Heat as a Mode of Motion," Darwin's "Descent of Man" by variations progressing through "boundless space and boundless time," and Herbert Spencer's theory of mind as a stratified record of ancestral inheritances.

The claim to absolute originality is somewhat shattered, when we remember that the identifying of heat as a phenomenon of motion was accomplished long before either Emerson's or Tyndall's day by Lord Bacon, by a wealth of that inductive reasoning of which he is the modern apostle, this being in fact the very thesis chosen to illustrate the virtues of his famous *Novum Organum:* that, to say nothing of Kant and others, Goethe in 1793 had not only broached the theory of development, but proposed the very names "Law of Inheritance" and "Law of Variation" which are still used to cover its pivotal ideas: and that Herbert Spencer's theory roots itself in the old metempsychosis, which is the inevitable counterpart of all Pantheistic speculations; according to which not only human ancestry has recorded its experiences in the outline of the present soul, but, to borrow Emerson's words, "Every animal of barnyard, field and forest, of earth and the waters under the earth, has contrived to get a footing and leave the print of features and form in some one." But the question of priority in utterance is insignificant; for it is manifest that the resemblance of idea is only superficial. In fact, two theories of the universe could hardly be more antipodal in their radical principle than the Emersonian and Darwinian. The one looks behind the veil of matter, which the other only looks at, and finds Spirit, which is to the other unknowable and for his thought therefore unreal, to be the only thing truly knowable and real. Evolution is to him, therefore, the revelation of a vital and formative intelligence through the plastic medium on which it breathes; and not a grist ground out by the mechanical oscillations of a disturbed atomic equilibrium.

THEIR ANOMALOUS INFLUENCE.

It is at present probably impossible to estimate fairly the influence of these two great thinkers upon their time, either absolutely or relatively to each other. The titles of books directly and avowedly inspired by either would go far to fill an entire page of the ordinary library catalogue. This list will be vastly increased if we add the articles devoted to the same themes to be found in that peculiarly modern and increasingly valuable compend of current thought, the periodical press. But beyond this still lies a broad margin of incidental and collateral research, and of occult influence on opinion and methods of thought, too indefinite to be outlined. The Darwinian canon has been applied in the region of language, civil institutions, customs, art, morals, religion, etc., and evolutionary theories accordingly advanced in each; while traces of the Emersonian cult, though more subtle and evasive, are still clearly recognizable in divers fields remote, and not sowed directly by him.

This prodigious command of public attention and intellectual sympathy seems more anomalous, since its recipients were alike regarded as unfriendly to the ordinary theology of their time, if not to Theism itself. Men's feelings are apt to diverge with heir opinions, reaching the proverbial *odium* which has been charged to Theology alone, but which is equally virulent in rival schools of Politics, Medicine, Mathematics and Science in ts various forms. The instinct which shrinks from or repels strange doctrines as possible foes in disguise ought naturally to be more active in the region of Theology, where mystery and peril culminate. But whether it were dissatisfaction with and a latent desire to escape a "creed outworn," as so often claimed—or a fit of that "moth-rashness" which pitches headlong into every newly discovered brightness, without asking whether it be a flame, and which, as Archbishop Whately observes, lives often, side by side, with a "horse-rashness" that cannot be dragged even out of a burning stable—or, perhaps, a kind of Robin-Hood chivalry that sacrificed its antipathy in honor of the skill that drew so strong a bow—the curious fact still remains that a Theistic age has listened with deference to, and crowned with laurels those whom it strongly suspected of a disposition to discrown the Personal Deity himself whom it worshipped.

Strangely enough, moreover, two leaders whom so many were disposed simultaneously to trust and follow, were eminently distrustful each of the other's method and its results, and sought to go themselves in precisely opposite directions. Darwin had no faith in an "inner sense," and was jealous even of the illusions of the outer. He tethered himself cautiously to the exterior phenomenon, and shrank from the edge of transcendentalism, as the spirits in Scripture recoiled from "the abyss." Of Mr. Emerson, on the other hand, Mr. Frothingham says, "For the scientific method he professes no deep respect, for the scientific assumption, none at all." With Carlyle, he plainly regarded the scientific thinker, with "the epitome of laboratories and observatories in his head" as only "a pair of spectacles behind which there is no eye." "The path of science and letters" he says, in one of his essays, "is not the way into nature. The idiot. the Indian and the unschooled farmer-boy stand nearer to the light by which nature is to be read than the dissecter or the antiquary." Again even contemptuously he says, "On the platform of physics we cannot resist the contracting influences of so-called science," which finds "the law of being" in "such cheap signboards as the color of the beard or the slope of the occiput. The grossest ignorance does not disgust like this knowingness. The physicians say they are not Materialists; but they are: Spirit is matter reduced to an extreme thinness: O, *so* thin! * * * When I come to that ('adapting conversation to the shape of the head') the doctors shall buy me for a cent. * * * On this platform one lives in a sty of sensualism and would soon come to suicide."

But even more unique than their contradiction of each other's theories, and of the common sentiment of their time, is the skill which these great writers have displayed in persuading eminent men to contradictory interpretations of themselves. Thus the distinguished German anatomist, Kölliker, came to an unfavorable judgment of Darwin's view, on the ground that he is in the fullest sense of the word a teleologist; while Professor Huxley says: "That which struck the present writer most forcibly on his first perusal of the 'Origin of Species,' was the conviction that teleology, as commonly understood, had received its death blow at Mr. Darwin's hands." Commenting on Principal J. W. Dawson's remark that Darwinism "removes from the study of nature the ideas of final cause and purpose," our distinguished botanist, Professor Asa Gray, in his "Darwiniana," characterized it as "a sentence which reads curiously," since Darwin's investigations "have brought back teleology to natural science, wedded to morphology and already fruitful of discoveries;" coupling this assertion, however, with an interpretation of Darwin's theory as holding that variation had been "led along certain beneficial lines." This interpretation Darwin himself thought it proper, in the closing words of his book on "Animals and Plants under Domestication," "however much he might wish" to adopt it, politely to repudiate. Dr. Charles Hodge, of Princeton, who could read the English language without stopping to spell the syllables, summed up his judgment in the well remembered words: "What is Darwinism? It is Atheism." While, on the other hand, some of the brilliant theological explorers of to-day maintain that Darwin is the new Peter, on whom or whose words the real Christian Church is to be built.

Mr. Emerson also has proved sufficiently adroit and volatile in masquerade to elude conclusive classification. He has been praised and denounced with about equal vigor and impartiality as a Christian and a Pantheist, a seer and a madman, an artist and a charlatan. He sunk through the bottom of Unitarianism, which was not sufficiently heterodox to hold him, and has reappeared unmistakably on the top of the "new theology," which is not too orthodox to receive him, and be saturated with his influence. Certainly there is an enchantment in his speech for sympathetic readers, which nothing but Ithuriel's spear could break, and which breeds toward those who are too obtuse to understand and too phlegmatic to adore, a sentiment of wonder and disgust, which is in turn abundantly reciprocated.

SUPERFICIAL EXPLANATIONS.

How then could men, who contradicted public sentiment, contradicted each other, and left the impression on careful readers that they had contradicted themselves, still exert so powerful a fascination upon and win so wide a confidence from their generation? Some minor circumstances may be mentioned which offer an obvious, but manifestly insufficient explanation. The first is the *temper* of the men. There breathed through all their pages an air of candor, serenity and childlike freshness of feeling. What can be more *naive* than the startled look with which Mr. Darwin regards his own final and cautiously reached conclusion, that "most distinct genera and orders within the same great class—for instance, whales, mice, birds and fishes—are all the descendants of one common progenitor." "To consider the subject under this point of view," he says, "is enough to strike one dumb with amazement." As for Emerson, the enchantment-weaving genius of the "Arabian Nights" was always at his elbow. For him "divinity" did not only "hedge a king," but a dung-fork or a patent-medicine advertisement as well. Like another Martinus Scriblerus he was continually coming abreast of some "ancient shield," poring over its runic characters, and imaginatively beholding unspeakable glories under its blinding rust. It was impossible to resist the generous contagion, even though tempered by the somewhat rude apprehension, that in the case of the new Scriblerus as of the old, a little scouring with realistic soap and sand would reveal the mysterious relic as only a vulgar pot-lid.

The *style* of the two authors had also certain unique and engaging, though divergent, features. Mr. Darwin is in no sense a rhetorician. His language is eminently prosaic and inartificial, approaching even to clumsiness at times. But it is characteristically limpid and flowing, and costs little effort to apprehend. In his case, at least, the popular proverb was contradicted that " easy writing makes hard reading." Mr. Emerson's sentences, on the other hand, are tempered, sharpened and polished like a Damascus blade, and jeweled accordingly. They cut, thrust, gleam and whistle through the air, now dividing the traditional floating gauze and anon slicing a rebellious turnip, with equal and amazing gravity, celerity and grace. Sensations of admiration, of expectancy and baffled curiosity alternate continually but never entirely disappear. Prose and poetry, sobriety and extravagance, originality and commonplace, Charlemagne and the village cow-boy, swim hurriedly and confusedly past the eye like animalculæ in a water drop beneath the microscopic object-glass, and the attention cannot flag.

Again, something is to be allowed for the *novelty* of the *attitude* assumed by each. The notion of transmutation of species had often been hinted and even plainly announced before Darwin's day, but always so capriciously, so awkwardly, or in such absurd connection as to deserve the derision which it met. But the "Origin of Species," by its dignity, sobriety, modesty, candor, and especially by its breadth of information and thoroughness of experimental research, at once commanded respectful consideration even from its most prejudiced opponents. When Lord Monboddo bluntly sought to hang an ape-like face among our ancestral portraits, it was resented as a stupid and libellous joke. It seemed so, manifestly, only because badly introduced, and not carried far enough. The same joke in Darwin's hands, pushed back through an " arboreal, hairy, pointed-eared, ape-like " stage to brainlessness, bonelessness and formlessness in the primordial ascidian turns to solemn earnest, and awes the profane into a respectful if not reverential attitude. Perhaps we are less sensitive as to alleged kinship with the ascidian than the monkey, because the sense of caricature begins only with traces of resemblance, and the "family features" dimly discerned in the latter, are wholly wanting in the former. Be that as it may, it is certain that the very undertaking, by a man of acknowledged scientific reputation and attainments, seriously to reinstate as a demonstrable theory what had been uniformly discarded as an incongruous and idle fancy, gave an element of piquancy to the whole situation. Profusion of illustration by fresh and curious phenomena, together with ingenuity of collation and interpretation, retained the attention already secured, and success in that direction was complete.

Mr. Emerson's central idea was no less time-worn. He often goes over the roll-call of his intellectual ancestry, George Fox, Boehme, and the rest, back to Plotinus and the Oriental Yogi. The Yogi, as Vaughan describes him in his charming "Hours with the Mystics," "sits with his mind fixed on one object alone, in the exercise of his devotion for the purification of his soul. Keeping his head, his neck and body steady, without motion; his eyes fixed on the point of his nose, looking at no other place around." In later stages he even closes the eyes and with fingers or bandages almost stops the nose that, the earthly life being hindered, the spiritual may get the ascendancy, and so escape from the "illusion of sense" into the "pure vision" of trance. Mr. Emerson was a Yogi, but a Yankee Yogi; and his apparition among the shoe-factories and cotton-mills of New England was as startling as that of "the image which fell down from Jupiter," at Ephesus. It was not unnatural in either case to worship so mysterious a phenomenon, whose coming they could not account for and whose meaning they could not understand. Rufus Choate, according to tradition, once described his sensations in the presence of Chief Justice Shaw, as akin to those of the heathen before his idol. "I see," said he, "that he is ugly, but I feel that he is great." Something of the same awe-inspiring power invested the Emersonian oracle, begetting a vague feeling rather than a precise apprehension. Either plain or ambiguous words from such lips seemed equally to imply some tempting, but reserved secret, and the very indistictness of suggestion, behind the words, receding like the echoes of the Delphic voice into inarticulate murmurs, spoke of caverns of wisdom beyond, dim and vast. When the Hegelian philosophy brought as its overture to England, the fundamental axiom that "everything is at once that which it is and the contrary of that which it is," the English people were so profoundly impressed by the mystic force of the statement that they would willingly have made obeisance to the elephantine prodigy, as Masson says, if they could only have told which end was the head. Mr. Emerson with like bluntness and perspicacity announced to the American people the literal and final truth as to the nature of religion, viz: that "it is a mountain air; it is the embalmer of the world. It is myrrh, and storax, and chlorine, and rosemary. It makes the sky and the hills sublime; and the silent song of the stars is it." Now even the grossest stupidity must incline to a reverential attitude in the presence of a "mountain air"—which must, in any case, be something lofty—especially since its thinness suggests proverbial difficulty of respiration and the possible imminence of death. In fact a definition so august seems at once to scout contradiction and to wave off profane curiosity, leaving no alternative but to wonder and adore.

There remains still another obvious and highly significant element in the solution of our problem viz: the nature of the *environment* into which the two great thinkers respectively came, and through the help of which their fame was wrought.

The early part of our century developed a strong reaction among the English people toward the physical method of research. They had become weary of holding the "sieve" into which German mysticism had been "milking the barren heifer." A remarkably brilliant group of specialists had meantime arisen, earnestly bent on "popularizing science;" for which the immensely increased range and influence of the periodical press and the lecture platform offered an inviting opportunity. The metaphysicians also, never extinct though sometimes dormant, had seemingly spun out their coil and were quietly awaiting a new cocoon. Into such an expectant place and time Darwin's idea fell like a spark into tow. It flashed and sped forthwith through the whole web of thought. Not only did the paths of purely physical science kindle into a glow—the blaze crept over and along the lines of political, linguistic, psychological and ethical inquiry. It transcended even these limits; flashing up in Tennyson's passionate exhortation, to

> "Arise and fly
> The reeling faun, the sensual feast;
> Move upward working out the beast,
> And let the ape and tiger die;"

gleaming through George Eliot's fiction, with a vividness that makes the very arterial currents of her deepest thought processes discernible; urging to white heat the fires, and rousing into a lively whir the spindles, of Herbert Spencer's Synthetic Machine; from whose filmy metaphysical threads are woven, as the final outcome, "such stuff as dreams are made of."

The whole atmosphere of the time seemed, in a word, to have been lying surcharged with potency, yet needing an electric touch to explode it into action. The temper and equipment of the army were complete but it was in camp, needing a pregnant conception to breed a campaign. This came with Darwin, and the campaign is not yet over.

Mr. Emerson also swam with a favoring tide, although his early fame was narrower, more exclusive and of slower growth than Mr. Darwin's. It took twelve years to sell 500 copies of his first book, and longer than that for his shadow to creep far beyond New England. Western soil was too rank to nourish a flower so ethereal as transcendentalism. A short radius swung from the "golden mile-stone" at Boston would cover its congenial territory. Here the rectangular walls of partition civic, social, and theologic, early set up and long jealously repaired and defended by Calvinistic law-giver, priest and tithing man, had lost their rigid outline under the tangled profusion of that oriental overgrowth which Dr. O. W. Holmes styled "New England Brahminism:" whose dominant phraseology he caricatured in the inquiry, "Why is the nose set in front of the face, stretching outward and upward, but that it may attain as it were a *fore-smell of the Infinite?*" In such an atmosphere grew up Bronson Alcott and Margaret Fuller, the one of whom, as Carlyle said, was bent on a "return to acorns and the golden age," and the other determined to "eat this big universe as her oyster or her egg." Here "wild in the woods the noble savage" Thoreau "ran"—having invented by Walden pond a new Arcadia all his own. In this warm haze loomed up the mirage at Brook Farm; of which Hawthorne complained that he "went there to drive the horses of the sun and found himself, instead, sitting in a barnyard milking a kicking cow." In it were also bred, like gnats out of a too rich fen, a gyrating infinitesimal ephemeral swarm of culture-worshippers, buzzing their devotion to reform round the ethics of the larder, the pronunciation of vowels and the length of skirts. Here manifestly was breadth and intensity enough of enthusiasm, needing only to be mastered and trained. The "high-thinkers and plain-livers" had their "wagon" ready, but only in Emerson's advent did they find how to "hitch it to a star."

REAL EXPLANATION.

But influential as may have been the causes thus far assigned, they seem totally inadequate to explain the universality or the depth of the influence of Darwin and Emerson on cotemporaneous thought. Scientific discussion, however vivified by picturesqueness of style and novelty of illustration, has attractions for but a limited class; and the immediate question as to the reality of a "transmutation of species" seems insignificant in itself and utterly devoid of practical interest. The involved sentences, the recondite allusions, and the grotesque and paradoxical extravagances of Emerson are calculated also to discourage if not to disgust the average reader. The secret of their power is not to be found in so superficial a range as that of personal temper, literary art, or aptness of specific theme. There is but one problem of perennial interest to man. It is that of his relation to the infinite unseen, and the infinite future. To this his speculations have been irresistibly drawn, round it they have hovered, in it they have been consumed, like moths in the flame that had enchanted them. "Curious to consider!" says George Henry Lewes. "In the modern as in the ancient world, the inevitable results of a philosophical method are idealism (or mysticism) and skepticism." Both these are rejected and a new method sought, but always with the same result. "Sisyphus rolls up the heavy stone, which no sooner reaches a certain point than down it rolls to the bottom and all the labor is to begin again."

Neither Darwin nor Emerson explicitly attempts (and Darwin seems rather to shrink from) the direct discussion of the truth of Revelation. But never did the obtrusiveness of that stone in the way, which every man must build upon or fall upon, more clearly reveal itself than in the universal, irresistible drift of current argument into theologic channels, and the sense of a covert theologic animus even in the maintenance of propositions seemingly most innocent and remote. A mingled sense of longing and of awe attends such venturesome inquiries, as of one pressing along the hedge of the Divine, which he may not rudely break or incontinently overleap, but which may under half-unconscious pressure somehow yield a moment's glance through a casual rift. None of Darwin's utterances have been more studiously surveyed to get their true bearing than his meagre allusions to the "Creator." Emerson never more thoroughly rivets attention than when, in the quaint words of old Thomas Fuller, he "knocks at the door of blasphemy, though not always with intent to enter in thereat." This sidelong glance toward the invisible, as though penetrating, or hinting of power to help others penetrate, its solemn mysteries, clearly has lent to the words of these powerful thinkers, more than all else, that peculiar fascination we are seeking to explain.

THEIR CONCLUSIONS TESTED BY THEIR OWN ATTITUDE TOWARD THEM.

It is not proposed here to inquire into the truth or falsity of the particular proposition which has made Mr. Darwin's name famous, nor of any individual theory of Mr. Emerson (if indeed he would not resent the charge of ever having entertained so plebeian a thing), but to study the attitude of each toward his own avowed method, and its outcome.

First, then, what practical verdict have these men given upon their own conclusions? Whatever inferences others may draw from it, as enlarged, modified or reconstructed according to their own tastes or theories, it is plain that Darwin himself regarded the whole plane of his speculations as having a dip toward the atheistic gulf. From this he recoiled, but from the cogency of the logic, driving him over its verge, he found no escape except by a most illogical leap, which he accordingly took. Bringing his observations on the "Variation of Plants and Animals under Domestication," to a conclusion, he refers to Professor Gray's proposal to allow room for the entrance of intelligent design into his conception. The Professor had suggested that variation may have been "led along certain beneficial lines." This concession, "however much we may wish it," he says, "cannot be logically made." The exigencies of the theory forbid it, "since plasticity leading to injurious as well as serviceable variations cannot then be understood." Here, as in the "Origin of Species," he vigorously repels as fatal to his whole scheme the intrusion into the problem of any agency "superior to, though analogous with, human reason." But the book forthwith closes with a confession that such a conception, if taken as a finality, is to him neither true nor satisfying. "On the other hand, an Omnipotent and Omniscient Creator ordains everything and foresees everything. Thus we are brought face to face with a difficulty as insoluble as free-will and predestination."

"The theory of descent, taken together with that of natural selection," says Dubois Reymond, "forces the idea upon the student that the soul has come into existence as the gradual product of certain material combinations." "Physical science, mechanical and mathematical, repudiates immaterial cause, denying that there is any exception to conservation of force." That this is a fair characterization of the nett drift of the Darwinian argument is manifest; and it delivers us over to a chaotic notion of the world. For the exclusion of design, without offering any other intelligible explanation, drops the origin of even a manifest order back into the category of "blind chance." But such a conclusion, though scientifically demanded, Darwin scouts. He says, in the "Descent of Man," "our minds refuse to accept it. The understanding revolts at it."

Again: "That sense of dissatisfaction which all unsatisfied instincts leave behind them," prompts to "act differently for the future—and this is conscience." So wrote Mr. Darwin. But it was no such conscience that bred his sensitive, honorable dealing with, for instance, Mr. Wallace. The fullness and eagerness with which he acknowledged Mr. Wallace's rival claims, suggested anything but a dull, ox-like faculty, waiting to be goaded into action by the painful prick of a remembered wrong. The refinement and affectionateness of Mr. Darwin's character, as revealed in his life, also force us to suspect that revolt must have crept down his fingers, though it did not paralyze his hand, when the logic of his theory urged him to insinuate, if not really to propose, the forcible introduction of the stock-breeders devices to raise the grade of human cattle. In the higher ranges as the lower, there is some wisdom in the proverb, that "the proof of the pudding is in the eating." The cooking which nauseates the cook, ought to be approached suspiciously by others.

It is far less easy to infer Mr. Emerson's final attitude toward his long series of announcements, chameleonic and nebulous as they were. It would be hard to convict the aurora borealis of inconsistency, because its scintillations seem of different colors in successive moments. Still there are traceable tides even in the tossing sea. When we hear a voice saying, "The simplest person who, in his integrity, worships God, becomes God"—or avowing that in all conversation there is tacit reference to a third party, and "that that third party, or common nature, is not social; it is impersonal; is God"—or again in the person of the dim Brahma "sleeping on eternity and the stars," exhorting the "meek lover of the good" to "find me and turn thy back on heaven," we cannot be mistaken in scenting the intoxicating aroma of Pantheism, breathed with the words.

Mr. Emerson thought Christian creeds a kind of religious "mumps, measles and whooping cough" (which are not usually fatal, even if inevitable), but he went further, superseding revelation by proposing omniscience as every man's prerogative. "If we will not interfere with our thought, but will act entirely or see how the thing stands in God, we know the particular thing and everything and every man. For the Maker of all things and all persons stands behind us and casts his dread omniscience through us over things." It is in this immediate connection that he remarks that "a certain tendency to insanity has always attended the opening of the religious sense in men, as if they had been 'blasted with excess of light.'" It is charitable to believe that from the perceived peril of such irreverent rashness in speech and thought he afterwards shrank back. There seems no reason to doubt, however, the words be interpreted, that he expressed to Bronson Alcott his confidential friend, his desire to be counted a "Christian Theist."

Mr. Emerson is reported to have been a man of unusual serenity of temper, great urbanity of manner, and kindliness of feeling, and immaculately even puritanically austere in morals. He magnified the instinct above all else. It seems strange that instinct should not have suggested some flaw in his compass or defect in steering gear, when he found himself running on such ugly reefs of rudeness, heartlessness and equivocal ethics as the following, gathered at random from his works :

" The German and Irish millions, like the negro, have a great deal of guano in their destiny." The sick are hateful, " because they pollute the morning with their corruption and groans." As to the poor, " Are they *my* poor? I tell thee, thou foolish philanthropist, that I grudge the dollar, the dime, the cent I give to such men as do not belong to me, and to whom I do not belong." Furthermore, as to morals, " Nothing at last is sacred but the integrity of your own mind." " Good and bad are but names very readily transferable to that or this : the *only* right is what is after my constitution, the only wrong what is against it." Carlyle, witnessing this soaring away from nature, under the plea of trusting nature, in Emerson, and his comrades of the " Dial," got so loaded up with impatience that he finally poured one of his Brobdingnagian vollies across the Atlantic into the bosom of his friend and correspondent. " You seem to me in danger of dividing yourselves from the fact of this present universe, in which alone, ugly as it is, I can find any anchorage, and soaring away into ideas, beliefs, revelations and such like—into perilous altitudes as I think, beyond the curve of perpetual frost!" " Well I do believe, for one thing, a man has no right to say to his own generation, turning quite away from it, ' Be damned.' It is the whole past and the whole future, this same cotton-spinning, dollar-hunting, canting and shrieking, very wretched generation of ours. Come back into it, I tell you."

It is of course easy to misinterpret or exaggerate the significance of casual utterances, personal traits or religious attitudes as seeming to contradict or discredit avowed opinions. It is not to the man himself but to the generations taught by him that our Lord refers us for results when he says: " By their fruits ye shall know them." For a man's speculative conclusions do not always reveal their perfect fruit-forms in his own life. Habit and feeling are more hampered by inheritance and social surroundings than thought; they lag in a denser element, as ships in the sea go slower than the clouds above it. So that a man's whole nature only gradually disentangles itself from corporate and traditional, and remoulds itself to new and personal, speculative conclusions. It may come to pass therefore that he shall through mere inertia linger in old relations that have lost their value for him, and use old formulas that have lost their contents. Mr. Emerson certainly died a Vice-President of the Free Religious Association, and his calling himself a Christian Theist may have meant something far less or far other to him than would justify the particular emphasis since laid upon it. Nor is it forgotten that Mr. Darwin's latest posthumously published utterance represents him, while saying, "In my most extreme fluctuations, I have never been an atheist in the sense of denying the existence of a God," as adding "I think that generally (and more as I grow older)—but not always—an agnostic would be the more correct description of my state of mind." His nominal adhesion to the English Church, and his continued use of the term "Creator" seem therefore to have had little positive significance. This last term in fact when used in his early book on the "Origin of Species," had much the appearance of a pallid and superfluous moon thrust into an unfriendly sky, from whence it faded away, in book after book, to a narrow rim and went at last into almost if not quite total eclipse.

The particular circumstance to be observed however is this: that these two men, who have been sailing nearly a century in antipodal seas—for each regarded the other's researches as on the wrong side of the globe of knowledge, if not on the wrong side of actuality itself—when they try to find a haven near the end of the voyage, are really seen to be on the opposite sides of a narrow isthmus, where neither can come to final anchorage because of blasts that come across from the other and repudiated sea. Mr. Emerson had expressed his unbounded contempt for those who moved in what he thought the animal and twilight realm of the concrete, the historic, the personal, saying, "It is of no importance what bats and oxen think." Yet in some later moods at least he could not efface from his horizon the significantly concrete reality of the historic Christ, the personal God; for this much at least his words in their thinnest dilution must mean. Mr. Darwin looked with equal scorn on every one who was "content like a savage" to look on the universe through a haze of wondering idealism instead of boldly picking it to pieces and so getting to understand it scientifically; but he does not rest easily in his "scientific verities" after all. He can not rid himself of the ghost of the supernatural: he too has "moods," being subject to "extreme fluctuations." Never quite an atheist—sometimes, "but not always an agnostic."

THE METHOD OF EACH JUDGED BY HIS OWN TREATMENT OF IT.

It is plain that a man as well as "an atom," has "two sides," and that his soul-windows lie opposite. Through neither does the visible landscape swing full circle ; the two cannot be harmoniously joined by his wit, nor can either be wholly obscured. For even though he obstinately confine his gaze to one, repudiating the other, he will be dimly conscious of that on which his back is turned.

The scientific spirit avows itself characteristically critical and dialectical. Whatever cannot be verified by sense, or knit to the testimony of sense by unimpeachable logic, is dismissed at once into the unreal. It will not step off the globe of solid fact to engage in unprofitable speculation about what Professor Huxley calls "lunar politics." In this spirit Mr. Darwin rejects the "miserable hypothesis of special creations," and the notion of a "plan of creation" or "unity of design," as mere devices to "hide our ignorance," involving an unscientific resort to "occult causes" instead of a scientific explanation of the facts.

The transcendental spirit, on the other hand, professes to deal exclusively in ideas and intuitions. It moves on wings, not legs, least of all legs hampered by the pragmatical ball and chain of sense and logic. The brute world of observation and history does not really begin to exist for it, until its "solid angularity" has first been "dissolved into shining ether." Facts, on the side of detailed observation and experiment, seem to have been as loathsome to Mr. Emerson as snakes were to St. Patrick, and he was as much committed to abolishing them from his domain. They are only the "*scoriæ* of ideas," said he. For argumentative processes he had as little stomach, judging by his summary disposal of a young man who attempted to impose them on him: "I perceive you are still floundering in the mud of dialectics."

Their contempt for each other's prime axioms and methods being thus bluntly manifest, it remains to inquire with what decorum they treated their own.

The fundamental canon of science is that no conclusion shall be tolerated which does not rest solidly on fact, as the top stone of a pyramid rests on its base. This rule seems reasonable and capable of easy and infallible application. But is it really so? This is a serious question, if the pyramid we are to gauge is a theory of the universe, and the top stone a verdict as to the reality of a Creative Mind. In such a case one cannot be too scientifically jealous of a possible quicksand at the bottom, or a gap or soft brick in the wall.

Nothing *seems* more obvious or more easily definable than a fact. *Really* a fact is in itself most elusive, and its definition most difficult. A single page from a prominent scientific writer will afford abundant illustration. He there announces that "the *fact* of evolution" has been "demonstrated" by Mr. Darwin, by the help of a theory of evolution, "formed out of" the "previously well known *facts*" of "struggle for existence, survival of the fittest and heredity," the "proof" having been "completed" by "amassing *facts* from every department of science" (a sample of the latter class of facts being given in "his *experimental proof* of the manner in which bees make their hexagonal cells, and of the important part played in the economy of nature by earthworms"), and the "large body of *facts* relating to the ornamentation of all classes of animals." Here a highly attenuated and confessedly unverifiable theory, a group comprising an alleged process, an alleged result and an alleged law, a pair of hypothetical interpretations of highly recondite and equivocal phenomena in the lower ranges of life, and a final group of descriptions of phenomena themselves are alike recklessly labeled "facts." The absurd self-complacency and assumption involved in such a random use of language is apparent when we remember how confessedly difficult science finds the secure application of the term, even in the last and lowest of the uses here assigned to it, viz: that of an observed appearance. Cuvier's traditional criticism of the definition of the crab by the French Academy, as " a small red fish that walks backward"—which he is said to have declared sound except that a crab is " not red, is not a fish, and does not walk backward"—certainly suggests peril even in attempting to describe the most obvious things. For the uncomely and insignificant crab thrusts out his five palpable fingers on the physical side, each decorated with an enigma for a philosopher. As a matter of fact, is he small? That is a question depending on basis of computation; no, if compared with a flea; yes, if with a planet. Is he red? That involves some difficult problems in optics, with metaphysical suggestions: he may be red to the color-blind. Is he a fish? That question should move forward from the feathery fingers to the claw, for it has the true pinch in it; it takes in the whole tangle of biologic classification. Does he walk? He goes on legs but not on two perpendicular legs. Everything here depends on definition. Does he walk backward? Peculiar caution is at once suggested by this question. Many grave difficulties have recently been raised by the discovery of ambiguous creatures and double-enders. Can a creature be justly described as walking backwards, that has been taught by "natural selection" or otherwise to carry its head on one side or behind?

Mr. Darwin has been signalized as pre-eminently and exclusively a builder on fact. That the world has been enriched by his enthusiastic, sagacious, painstaking, indefatigable labors in the investigation and record of biological phenomena is too plain to be ignored. His books are his monuments in that behalf; the last of them giving an epitome of over forty years patient study of a narrow and seemingly trivial problem. The enormous profusion with which he pours out detailed instances in support of his propositions is also astounding, if not overwhelming. But before accepting even his wide inductions as "exhaustive generalizations" let us remind ourselves of the inconceivably wider range from which they are drawn. They are in fact but a thimbleful from an ocean and that thimbleful treated by eccentric chemistry. Given a boundless range of divergent, occult, and complex phenomena, boundless additional facility of variant interpretation through their complication with the world of matter below and that of mind above, and boundless opportunity of plausible assumption through the unknown capacities of infinite space and infinite time—and it is not difficult to see how a master mind, working through many years under a strong prepossession, might, by dissecting away the unfavorable, warping the equivocal and claiming the endorsement of the unknown, lend even to a most illusive fancy the appearance of a granite column of fact, almost superfluously buttressed with testimony.

It may seem rash to put the so widely accepted Darwinian theory in such a category, but there is some reason to suspect that it would not be unjust. Two or three hints may at least suggest careful scrutiny in that direction.

Take as illustrative some such simple object as the barbed tongue of a woodpecker. It reveals at once three aspects, each looking toward a seemingly separate group of facts. It is an object of sense, as can be further verified by scalpel and crucible. It is an instrument of habit and instinct, whatever we may mean by that. It is curiously and exactly adapted to a needful end, namely, the piercing and dragging of prey from otherwise inaccessible refuges. Each of these features—constitution, function and adjustment—is an undisputed, independent and coincident fact. But we find ourselves instinctively disposed to assign each of these facts to one of three separate realms, which the generalizations of human experience have compelled us to conceive as equally real, viz: those of matter, life, and mind. The last of these worlds Mr. Darwin obliterates as a factor of the great problem by a stroke of his pen. The possible reference of "unity of type" in nature to a "creative plan," or of curious "contrivances" to intelligent purpose he disposes of in a word, "This is not a scientific explanation." Yet he counts it scientific to explain the conduct of earthworms, whose "acts are changed to suit their surroundings," by attributing to them "a certain amount of reason"—to account for the so-called self-protective mimicry of insects by the suggestion, that "they are reduced like most weak creatures, to trickery and dissimulation"—

and to resort to a confessedly confusing, if not misleading personification of "the sequence of events as ascertained by us," under the title of Natural Selection, in order to attribute to them without manifest self-stultification mental functions which he will not allow to a Creator. No "necessity of brevity" will excuse, in a calm, scientific treatise, the mental illusion fostered by sophistically attributing the manifest order and benevolence in nature, which cannot be ignored, to a confessedly supposititious power; which is credited with "hourly scrutinizing the slightest variations," being on the alert "whenever and wherever opportunity offers" to seize on the serviceable, and full of devices for "the good of the being whom she tends."

The bottom stone of natural selection is the idea of profuse over-action in nature and of a grinding waste out of which comes the grist of present order and adjustment. Nature, being everlastingly uniform, therefore, instead of "breathing life into a few forms or into one," must have begun with an illimitable deluge of spawn. But this would be "fatal" to the "theory." The notion brought in as a witness on one side is therefore promptly winked out when called on the other. Maupertuis' philosophical principle "of least action"—which is neither stated in full, verified, nor reconciled with the prior principle of greatest action—suddenly appears with no more antecedents than Melchizedek, "leads the mind more willingly to admit the smaller number," and having thus led without either fact or argument, is gone.

But even more unwarrantable than the bisection of the field from which induction is to proceed, is the enforced tribute compelled from much of the remaining half through arbitrary interpretation of the equivocal and fanciful reconstruction of the obliterated.

. Alien races of animals in cold countries grow alike long wooled. This, Mr. Darwin says, may be due either to direct action of the climate, of which there is evidence, or to the extinction of breeds that do not happen to be born with the new coat. The existence of green woodpeckers, he confesses, he would have attributed to protective resemblance, but that some others are black and pied; he therefore thinks it "probably due in chief part to sexual selection" (though he does not heed the same difficulty in the case of moths). Divers species present resemblances in structure which may be due either to reversion or to "analogous variation," and "we cannot distinguish between" these. The flower and the bee are adapted to each other, but this may have come about either "simultaneously or one after the other," but in what order or why we cannot tell. Finally, "our ignorance of the laws of variation is profound. Not in one case out of a hundred can we pretend to assign any reason why this or that part has varied." The conclusion of the whole matter is that "the one known cause of close similarity in organic beings," such as renders them classifiable, is "community of descent." But among the possible "known causes" of such similarity, absolutely independent of common descent, he has already enumerated as above, the action of exterior conditions, the unexplained tendency to take on protective forms, analogous variation in remote groups, and the self-modifying power of common habit. Moreover, the operative factor in "community of descent," which makes classes possible, is that which, in a given case, produces variation. Only on the supposition that all the collateral agencies named are excluded, and that the single effective agency is, as he assumes, that life-force which he designates the "tendency to vary," can his conclusion be true. But they cannot be excluded except by arbitrary interpretation or assumption, for the actual causes of variation are admitted to be in many cases indeterminable, and in most wholly unknown. And even if excluded, the "tendency to vary" which remains, is not a "known cause," but a name for an "occult force," appeal to which Darwin himself denounces as a device to "cover our ignorance," and "this is not a scientific explanation."

Again, the whole Darwinian superstructure rests on hypothetic foundations in the impenetrable depths of unrecorded phenomena and illimitable time. We are not to see the actual process of heterogeneous variation, for the variant tendency has, at some unknown point, and for some unknown reason, ceased to dominate, and lines have become fixed. There are now no intermediate groups; they have been ground out by competition, or swallowed by submerging cataclysms. There are no immediately antecedent ancestral forms, for they have been wiped out of history with a sharp line—the anthropoid having gone down with the well-known Lemurian continent. There are no conclusively continuous evidences of fossil gradation, because the geologic record is incomplete, and, perversely enough, has always dropped out the alternate pages, so as to destroy the complete continuity of even a single section. The assumption that each of these blanks if filled would contain affirmative testimony, underlies the whole argument, and it is wholly gratuitous.

Finally, if by "species" be meant a *permanent* group, there never could, by the hypothesis, have been any "origin of species," for there is no species. If, however, the word be taken to mean an *artificial, unstable* group, the product of the interaction of changing environment, mutual struggle and the "tendency to vary," then there is *no science:* at least, in that realm. For, again, by the hypothesis, these conditions are incalculable, the laws governing them being either inconstant or unknown, and classification of the facts therefore impossible. The Darwinian method thus, if wholly trusted in, brings us not only, as he concludes, to an "insoluble mystery" at the end, but escapes hopeless contradiction long before, only by verbal and logical thaumaturgy.

Mr. Emerson formulated no theory and propounded no method as such, yet he distinctly had and revealed both. He reckoned the true data of speculation to be "consciousness, will, thought, inspiration, miracle," as against "experience, facts, history, circumstance and the animal wants of man." He was not content to look at the exterior phenomenon or pick it apart, as brass and mystery might tempt a savage to treat a telescope; he wanted rather to see the milky way through it, and he did; not in clear orbs, but in dim, quivering flame. He did not ignore the external, but despised it. "The book of nature," said he, "is the book of fate, but intellect annuls fate. So far as a man thinks he is free." "Why should we make account of time, or magnitude, or figure?" "Before the revelations of the soul time, space and nature shrink away." He was especially impatient of detailed facts, abhorring what he termed "French correctness." He quoted with zest Napoleon's words, "What is history but a fable agreed upon?" "Travel" he thought a "fool's paradise." He exhorted men to "forego all low curiosity" and "pick no locks." He was angry with Swedenborg for introducing "gossiping angels."

Thought was, in his esteem, a wholly passive transaction, "a pious reception." "We only open our senses, clear away as we can all obstruction from the fact and suffer the intellect to see—the moment we cease to report, and attempt to correct and contrive, it is not truth." He agreed with old George Chapman—

> "I'll build all inward, not a light shall ope
> The common outway.
> I'll therefore live in dark, and all my light,
> Like ancient temples, let in at the top."

He would have nothing to do with verification by testimony or argumentative processes. "We know truth when we see it, from opinion, as when we are awake we know that we are awake." Our knowledge, he insisted, is automatic, "first an instinct, then an opinion, then a knowledge—trust the instinct to the end though you can render no reason." His artless repudiation of the ordinary canons of opinion in his response to a criticism by Dr. Henry Ware is almost ludicrous. "I could not give you one of the arguments you cruelly hint at on which any doctrine of mine stands, for I do not know what arguments mean in reference to any expression of a thought. I delight in telling what I think; but if you ask me how I dare to say so, or why it is so, I am the most helpless of men." Knowledge, being thus a purely personal creation and property, is absolutely independent of the universe and of other men and owes it and them nothing either by way of self-vindication, or of getting or giving. A man's "genius" should be "admonished to stay at home to put itself in communication with the internal ocean," and not "to go abroad to beg a cup of water from the urns of other men." Hence the nonchalance with which his public utterances were given, and the conspicuous disorder which, as Lowell said, suggested that his notes, all other methods of arrangement failing, had been "shuffled in his hat." He claimed to belong to the "high-priesthood of the reason" and no more needed to be assented to or even understood than Hermes or Plato. He was content to leave an impression of himself like that they made on him. "What has even a comic look to us is the innocent serenity with which these babe-like Jupiters sit in their clouds and from age to age prattle to each other and to no contemporary." In the final throe of the soul shaking itself loose from the meshes of externality, having got rid of obscuring facts, the childishness of questioning, the delusion of reasoning, having "contradicted all experience" and "abolished time and space," it must leave no hanging shred of superstition as to the need or possibility of external revelation; for the "moral sentiment carries innumerable Christianities, humanities and divinities in its bosom," and "we, too, must write Bibles." Practical morality, too, with its sham distinctions of right and wrong and their sham penalties must be evaporated, for is it not clear

> "That night or day, that love or crime,
> Leads all souls to the good?"

To say that Emerson was inconsistent, is to say little. He treats that criticism as a magician treats a bullet, catching it harmlessly in his teeth. He even transmutes it by his skill into a bouquet and decorates himself with it. "With consistency a great soul has simply nothing to do. He may as well concern himself with his shadow on the wall. To be great is to be misunderstood." This is of course unanswerable. No doctrine can be safer from attack than that which claiming to be a revelation of truth, names as its first prerogative the right to be absurd, and confesses that it would no longer be great if it could be understood. But for those who do not worship the Pythian insanity as the highest form of reason, it is worth while to notice the arts which a truly great mind practiced upon itself, in maintaining the illusion that it had found the true "golden reed" to measure the Heavenly City.

Perhaps Mr. Emerson really believed that he stedfastly "staid at home with the cause" and dipped solely out of an "internal ocean" as he exhorted others to do; that his speculations were immaculate from the touch of other men's words or influence; that his notions of the universe were virginal, so far as travel, history, science and external nature were concerned; that he really regarded concrete facts as a kind of vermin, and conventional morality as a zymotic contagion to be "stamped out;" that his pincers never thrust a thought into the flame of reflection, nor laid it on the anvil of logic to be forged into a link; and that he was as indifferent to the assent and sympathy of men as he declared it a plain duty to be.

But to those who know his history, or have read his writings all this will seem exceedingly grotesque. He was "superstitious" enough to travel in England, and a valuable book, and the life-long and unmistakable influence of contact with Coleridge, Carlyle and Wordsworth were the result. He read history and biography to a specific purpose and embodied a fragment of his research in his notable book on "Representative Men." His appetite for facts was really cavernous. He ploughed through the realm of human discovery and transaction, as a whale ploughs through the sea, with distended mouth taking in an avalanche at a gulp. The very sparkle of his writings, as contrasted for instance with Spinoza or Boehme, was due to utter banishment of the abstract; they were gemmed thick with facts, the most vivid, the most familiar; pebbles picked up in the village road and cut anew until their facets were resplendent. Much as he affected to despise "French correctness" he was the most artistic and even prudishly painstaking of writers. All the more piquant because of this were the shapeless vulgarisms, perversely thrust in at times, like a skull or a grinning gargoyle into an Oriental facade to keep away the "evil eye." Nor was he by any means innocent of the ruminant or logical process. Men may laugh at the caricature of reason, but will not long listen to him who really abandons it. Emerson's intensity was due to the cogency of his convictions, and conviction is consciously or unconsciously a result of reasoning. His sentences so far as they affect men had in them a latent and condensed logic; a logic rammed home like cotton in a piston until it took fire, and so the rhetoric blazed and warmed.

He himself seemed at times aware of this. He blamed Carlyle for prolixity and mental disclosiveness. "We want in every man a long logic, we cannot pardon the absence of it; but it must not be spoken." As to morals, Goethe as well as any man incarnated his prescription to despise the traditional canon; and let right and wrong be decided by the impulses of one's "own constitution." But Emerson treated him thereupon with the most Puritanic austerity, stigmatizing him as "a master of the revels to mankind."

At every point, therefore, the sphinx confronted and entangled him also. He could not disenchant himself nor men. Flesh and blood cannot domesticate itself in a purely transcendental world.

THE TRUTHS THEY STOOD FOR.

It is far from the purpose of this discussion, however, to ignore the genius, or to undervalue the really great and permanent service rendered to their time by either of these illustrious men. They were both honest and unselfish builders; they, like all the rest, builded "better than they knew," better than any of us know. It is for us to use their work, seeking carefully not to be misled by their own, or any man's, overestimate of its capacity, or misinterpretation of its possible functions, into the acceptance of theoretic results from which they themselves seemed to recoil, or the adoption of exclusive methods which they themselves found impracticable.

Upon three great and vital truths, at least, Mr. Darwin, as the leader of scientific thought, has riveted the world's gaze, viz:

First. The uncompromising reality and solidarity of the exterior world. It is now clearly seen to be a literal *universe*, the realms of which, though discernible, are inextricably interwoven. In this universal web whose threads run upward and downward between matter and mind, life is caught in the midst. Man himself with his feet in the clay and his head among the stars is a denizen of three worlds, each real and refusing to be left out, yet all three are somehow one, and rimmed round with one sweep of law.

Second. The visible brokenness of the universal order. This manifest factor in the problem, allowed to monopolize the whole area, led Schopenhauer and his comrades into pessimism. Darwin gave it far less, yet far too great, relative emphasis; allowing the individual exceptions to outweigh the great sweep of testimony, and rob nature of prevalent order and design. But clearly, as he insists, some threads in the loom are snapped and the pattern is incomplete. The geological leaves are often torn out or defaced. Some of the types of the life-record are displaced or distorted and it is no longer legible. There would be no sense of lack were there not first a suggested impression of wholeness; no sense of baffling in the reading were there not first an encouraged expectation of something to be read; no sense of brokenness, except as there was assurance of a primary order to be broken.

Third. The pre-eminent significance of birth. This is the gateway through which inorganic matter takes on organic function, through which the corporate breaks up into the individual, through which come incipient mutations of form and all growing possibilities. Within its impenetrable precincts the life-elements are plastic to an unknown touch, and subsequently self-revealing phenomena in all ranges point back to prenatal influences. If that which comes to be, outside the unbroken range of continuity in demonstrable physical antecedent and consequent, be scientifically a miracle, then every birth is such; for it brings into the world a new thing, with an original life and some trait or feature at least such as the world never saw before. Here hangs the sacred veil toward which all lines of vital mystery converge, behind which the square cut ark of law seems to nestle beneath the overarching wings of love, suffused by the light of the Ineffable Glory, which it is not yet ours to behold.

On the other hand Mr. Emerson stood valiantly for truths equally vast and potential. As for instance:

First. There is a fact behind the fact. Extravagant as are his assertions of the soul's revolt against the alleged supremacy of nature and sense, they strike a responsive chord in every one of us. Man is wrapped in clay but is not clay, and struggles to get free. And it is a noble struggle breeding a noble courage. "If my bark sinks, 'tis to another sea." As he truly says, "Six thousand years of elimination by experience have not bereft the soul of its dim vision of the invisible to which it feels that it belongs. There is still in consciousness a 'residuum unresolved.'"

Second. There are certainties which are yet undemonstrable. Hume said of Berkely's propositions that they produced no conviction, yet admitted no answer. Pascal said, "The heart has reasons which the reason cannot understand." Reason can never tear up the universal postulates, which it could never have laid, but without which it cannot begin to build.

Third. Man lies open on one side to the Infinite. His thought is drawn beyond the outward line and front of things, as surely as his eye strays past near fence and mountain, and plunges into the palpitating and inviting depths of the blue heavens. He "looks before and after," and cannot but look further than he can plainly see. The chaotic maze of earth-forces, and the golden tangle of star-flight stream out into long lines, and converging, point toward a beyond from whence they flow. The soul is sure also to reckon the "web of events, as the flowing robe in which she is clothed." No wonder then that man, who has so far descried the orderly threads in the loom of the heavens, the loom of earth and the loom of time, which have woven the raiment of his life, does not identify himself with the raiment itself or count himself also the product of the loom that wove it, but searches rather after one with whom he is of kin and whose "thoughts he reads after him."

THE RECONCILING GOSPEL.

Science plants its ladder on the solid earth and builds heavenward, but it does not reach heaven. Transcendentalism hangs its ladder from the heavens earthward, but it does not reach earth. We reach out in vain from the last round of the one, like a helpless worm from the end of a leaf; and equally in vain toward the first round of the other, which is beyond our touch. There is but one ladder that spans the gap between earth and heaven; on that alone angelic messengers "ascend and descend."

Science ends an incomplete history, like the Hebrew Testament, with a dim prophecy and a foreboding. Transcendentalism revives the dreamy twilight of the Greek Philosophy, but like that, it is an evening not a morning twilight, and fades into night. The half-truth in Hebrew realism and the half-truth in Greek idealism were blent into wholeness in him alone who is significantly called "the Truth," and who in his incarnation made "of twain one new man so making peace."

The New Testament, which is "the Word" of "the Word," like him whom it reveals, is both human and divine, and appeals to man as of earthly mould but of Heavenly kin. It recognizes and respects our *sense life* and its critical demands, for it locks itself into the secular history of men and the world of outward fact and accredits itself therein. It anticipates our scientific conception of the solidarity of the universe, the sweep and mastery of law, and the clutch of both on the race and through it on the individual destiny. It plainly describes the broken order of "creation groaning together until now" and the rending of faculty and sensibility through the disjointing of "flesh and spirit." How could man hope clearly to discern the primal order who looks through broken windows on a broken world? In that broken world it finds the progressive and prophetic march of life-forms arrested, and man at the head of the column bewildered, turning on his track to claim kinship and destiny with the brute. Through the lawful gateway of birth it represents as bursting into the arena a new and unique life, unclassifiable in feature and function, whose onward movement death could not bar, but became, instead, itself a birth into a higher and triumphant sphere. All this was brought within the verifying range of sense and is transmitted to us in written testimony and monumental rite.

On the other hand, the New Testament responds to the demand of the *inner* sense, confirming its faith in a supersensible world. But it is not an isolated cobweb-world streaming away into aimless and endless gossamer; it weaves its ethereal woof in beneficial and healing lines of miracle and ministry instead, through the coarse warp of the earthly and the actual. It verifies the impression too that there may be to the opened eye of the spirit direct visions of the invisible which the coarser faculties can never see, and that mortal man may have immediate fellowship with God. Yet it is the spiritual John who most insists on the testimony of sense to the concrete and historic verity of the incarnate Christ as against the Docetic Transcendentalists.

In the divine-human person of the "Word made flesh" we find the restored wholeness of our torn and bleeding nature which he came to redeem. He dwells congenially in the world below us, for He was "with the beasts" and they did not harm Him; He trod upon the sea and it bore Him up; He whispered a rebuke and it crouched silent at His feet. Yet the angels hung always on waiting wing about Him, and at His word the glad light flung its transfiguring glories upon Him. By what travail of soul He brought the redeemed creation and the redeemed people to their new birth, and healed the world's hurt which man's hand had inflicted, but which man's skill could neither probe nor heal, we need not here inquire. But that the work was wrought and the interrupted line of progress opened again to possible completion, God gave "assurance unto all men in that he hath raised him from the dead."

The old Babel tower rested well on earth, but could not pierce Heaven. The Greeks built a dream-city in the clouds, but could not drag it down to earth. But the City of God is surely coming "down out of Heaven from God," and it "hath foundations."

Finally, in the ascension of the risen Lord the true and conjoint prophecy of science and of transcendentalism is fulfilled. Not through the "descent of man" along a self-gravitating stream of muddy animalism to "chaos and old night;" but in line with the discovered order and march of life restored, through the "ascent of man," to the city that "lieth four square" and the new day. Both the scientific reasoner and the mystic dreamer looking up, may here find man's reason satisfied and his dream fulfilled, as "the clouds receive Him out of their sight."

SUPERNATURAL MORALITY.
SOME CONSIDERATIONS OF HERBERT SPENCER'S "DATA OF ETHICS."

[A Paper read before the American Institute of Christian Philosophy in New York, at the Monthly Meeting, January 31st, 1884.]

BY W. H. PLATT, D.D., LL.D.,
Rochester, N. Y.

AN EVOLVED OR NATURAL MORALITY IS A NECESSARY AND THEREFORE AN IMPOSSIBLE MORALITY.

I.

THE learned writer of the Introduction to the "Data of Ethics" says, "There are two systems of morality—that which claims supernatural authority, and that which is grounded in nature; and one of these must be accepted or all morality denied." (Intro. D. E., ix.) Which must be accepted? The first question is: Is there nature as distinguished from supernature upon which morality could be grounded? Mr. Spencer admits both nature and supernature. He says (F. P., 105):

"The progress of intelligence has throughout been dual. Though it has not seemed so to those who made it, every step in advance has been a step towards both the natural and the supernatural. The better interpretation of each phenomena has been, on the one hand, the rejection of a cause that was relatively conceivable in its nature, but unknown in the order of its action, and, on the other hand, the adoption of a cause that was known in the order of its action, but relatively inconceivable in its nature. The first advance out of universal fetichism manifestly involved the conception of agencies less assimilable to the familiar agencies of men and animals, and therefore less understood; while, at the same time, such newly conceived agencies, in so far as they were distinguished by their uniform effects, were better understood than those they replaced. All subsequent advances display the same double result. Every deeper and more general power arrived at as a cause of phenomena, has been at once less comprehensible than the special ones it superseded, in the sense of being less definitely representable in thought; while it has been more comprehensible in the sense that its actions have been more completely predicable. The progress has thus been as much towards the establishment of a positively unknown as towards the establishment of a positive known. Though as knowledge approaches its culmination, every unaccountable and seemingly supernatural fact, is brought into the category of facts that are accountable and natural; yet, at the same time, all accountable or natural facts are proved to be, in their ultimate genesis, unaccountable and supernatural."

Nature and supernature being thus admitted, from which come the rules of morality? We might reasonably expect Mr. Spencer to teach a supernatural morality, after saying that, "Amid the mysteries which become the more mysterious the more they are thought about, there will remain the one absolute certainty, that he is ever in the presence of an Infinite and Eternal Energy, from which all things proceed." (Pop. Sci. M., Jan., 1884.) Though he thus admits the supernatural—the Infinite and Eternal Energy from which all things proceed—he not only does not expect morality to proceed from this Energy, but says, "The establishment of rules of right conduct on a scientific basis is a pressing need. Now that moral injunctions are losing the authority given by their supposed sacred origin, the secularization of morals is imperative." (Prefacc D. E., vi.) The "sacred origin of moral injunctions" is not *supposed* but *admitted* in the admission of supernature. And again: if from the Infinite and Eternal Energy *all* things proceed, why are moral injunctions excepted, and why should the secularization of morals be imperative? If from this Infinite Energy all things proceed, *how can* morals be secularized? That which is essentially sacred cannot become secular.

We expect to show the impossibility of Mr. Spencer's system of morality "grounded in nature," where he exclusively places it; and also to show that morality *must* be from the supernature, which he admits, exactly under the authority where he denies it to be. To admit supernature, admits its moral as well as its material authority. It would be more consistent either to deny the supernatural, or to admit its moral authority. If the basis of morals must be scientific, of course morals must be natural and not supernatural; because there can be no science of the supernatural. Suppose, that, by induction, we try to put morals upon a scientific basis: what must we first do? Mr. Spencer says, "Our preparatory step must be to study the evolution of conduct" (D. E., § 2); that "moral phenomena" (as all else) "are the phenomena of evolution." (D. E., § 23.) Is this evolution theistic or atheistic—free or necessary—prescribed or unprescribed? Unless there are two or more kinds of evolution, the laws of the evolution of morals must be the same as the laws of the evolution of matter. Not stopping here to define any terms—nature or supernature—morality or evolution—the logical argument is, that whatever is not prescribed is either accidental or necessary. According to materialistic evolutionists, evolution is not prescribed, and is, therefore, either accidental or necessary. It must be necessary; for, as to morals, Mr. Spencer says (D. E., § 21): "The view for which I contend is, that Morality properly so-called—the science of right conduct—has for its object to determine *how* and *why* certain modes of conduct are detrimental, and certain other modes beneficial. These good and bad results cannot be accidental; but must be necessary consequences of the constitution of things." What is necessity? Theists contend, that with a divine Will in the universe nothing is necessary. But to theists it is more easy to tell what necessity is not than what it is. Necessity is not the irrevocable behind us, but it is the inevitable before us. In necessity there is no intelligence, for there is no plan; there is no will, because there is no choice; there is no hope, because there is no escape ; there is no responsibility, because there is no freedom. If, then, evolution is not prescribed because prescription implies authority which materialistic evolutionists deny ; and if evolution, especially of morality, is not an accident, as we learn from Mr. Spencer, it is evident from the reasoning of these materialistic evolutionists that

1. All evolution is necessary evolution. As we know no freedom apart from Will, if there be no Will in evolution, there can be no freedom. If evolution be neither free nor accidental, it must be necessary. Evolution does not claim to proceed from Will, or to address itself to will. It is not free to command, and no one is free to obey. Therefore, it must be admitted or denied, that all evolution is necessary evolution. If it be admitted, as it must be by all materialistic evolutionists, then, it follows, as all evolution is necessary, and all natural morality is an evolution, that all natural morality must be necessary ; and necessary morality is no morality. If it be denied, and it be claimed, that there is a natural morality, which is an evolution, but not a necessary evolution, then such evolution must be merely a method of a free Power; and if free, as we are conscious of freedom only in a free Will, we come, in our denial of a necessary evolution, to an all-evolving Will, whose uniformity is not necessity.

Mr. Spencer speaks of a "Power manifested throughout evolution work." Does this power work with method or without method? According to Prof. Hæckel, and other materialistic evolutionists, this Power works without method. He says in his "Munich Address," that "Those rudimentary organs—eyes that see not, wings that fly not, muscles that do not contract—clearly show, that conformity to an end, in the structure of organic forms, is neither general nor complete; they do not emanate from a plan of creation drawn up beforehand, but were of necessity produced by the accidental clash of mechanical causes." (Mr. Spencer denies "*accidental* consequences.") If Prof. Hæckel is right, then nature, under necessity and without Will, puts under necessity and without Will, all in nature. If nature is necessary, and evolution is a way of nature, then all evolution is necessary. Things evolve because they must ; they cannot be otherwise than they are. Whatever is, is inevitable. No intelligent Will started the universe, and there is no intelligent Will to stop it. The abstract *must* become concrete—the absolute must become the conditioned. Mr. Spencer states the doctrine of necessity quite as sharply as Prof. H. He says, " Moral principles must conform to physical necessities." (D. E., § 22.)

Morality is either evolved or prescribed. If evolved, it is said to be "grounded in nature," and is called Natural Morality. If morality is prescribed, it is said, as nature prescribes nothing, "to claim supernatural authority," and is called Supernatural Morality. If nature is necessary, then the supernature admitted by Mr. Spencer, so far as it is not self-limited in nature, must be free. Therefore Morality is either evolved as necessary in nature, or prescribed as free in supernature. In evolution, as nothing cannot evolve something, something must, from itself, evolve something like itself; for, if unlike itself, it is something evolved from nothing; which is impossible. All evolution is under Will, or not under Will; if not under Will, it is necessary; if under will, evolution is only the method of Will.

But, according to the theory of natural evolution, the homogeneous *must* be unstable; the instability of the homogeneous *must* differentiate into the heterogeneous; the dissipation of motion *must* integrate matter; effects *must* follow causes; and causes *must* multiply effects. Now, where is there enough freedom of action in all this, for that free action called moral action?

2. All so-called Natural Morality is an evolution. Mr. Spencer says, " Here we have to enter on the consideration of *moral phenomena as phenomena of evolution;* being forced to do this by finding that they form a part of the aggregate of phenomena which evolution has wrought out. If the entire visible universe has been evolved—if the solar system as a whole, the earth as a part of it, the life in general which the earth bears, as well as that of each individual organism—if the mental phenomena displayed by all creatures, up to the highest, in common with the phenomena presented by aggregates of these highest—if one and all conform to the laws of evolution; then the necessary implication is that those phenomena of conduct in these highest creatures with which Morality is concerned, also conform." (D. E., § 23.) The Italics are ours.

What is moral conduct? Mr. Spencer says:

"Conduct is a whole; and, in a sense, it is an organic whole—an aggregate of inter-dependent actions performed by an organism. That division or aspect of conduct with which Ethics deals, is a part of this organic whole—a part having its components inextricably bound up with the rest. As currently conceived, stirring the fire, or reading a newspaper, or eating a meal are acts with which Morality has no concern. Opening the window to air the room, putting on an overcoat when the weather is cold, are thought of as having no ethical significance.

"These, however, are all portions of conduct. The behavior we call good and the behavior we call bad, are included, along with the behavior we call indifferent, under the conception of behavior at large. The whole of which Ethics forms a part, is the whole constituted by the theory of conduct in general; and this whole must be understood before the part can be understood. Let us consider this proposition more closely.

"And first, how shall we define conduct? It is not co-extensive with the aggregate of actions, though it is nearly so. Such actions as those of an epileptic in a fit, are not included in our conception of conduct: the conception excludes purposeless actions. And in recognizing this exclusion, we simultaneously recognize all that is included. The definition of conduct which emerges is either—acts adjusted to ends, or else—the adjustment of acts to ends; according as we contemplate the formed body of acts, or think of the form alone. And conduct in its full acceptation must be taken as comprehending all adjustments of acts to ends, from the simplest to the most complex, whatever their special natures and whether considered separately or in their totality.

"Conduct in general being thus distinguished from the somewhat larger whole constituted by actions in general, let us next ask what distinction is habitually made between the conduct on which ethical judgments are passed and the remainder of conduct. As already said, a large part of ordinary conduct is indifferent. Shall I walk to the waterfall to-day? or shall I ramble along the sea-shore? Here the ends are ethically indifferent. If I go to the waterfall, shall I go over the moor or take the path through the wood? Here the means are ethically indifferent. And from hour to hour most of the things we do are not to be judged as either good or bad in respect of either ends or means. No less clear is it that the transition from indifferent acts to acts which are good or bad is gradual. If a friend who is with me has explored the sea-shore but has not seen the waterfall, the choice of one or other end is no longer ethically indifferent. And if, the waterfall being fixed on as our goal, the way over the moor is too long for his strength, while the shorter way through the wood is not, the choice of means is no longer ethically indifferent. Again: if a probable result of making the one excursion rather than the other, is that I shall not be back in time to keep an appointment, or if taking the longer route entails this risk while taking the shorter does not, the decision in favor of one or other ends or means acquires in another way an ethical character; and if the appointment is one of some importance, or one of great importance, or one of life-and-death importance, to self or others, the ethical character becomes pronounced. These instances will sufficiently suggest the truth that conduct with which Morality is not concerned, passes into conduct which is moral or immoral, by small degrees and in countless ways.

" But the conduct that has to be conceived scientifically before we can scientifically conceive those modes of conduct which are the objects of ethical judgments, is a conduct immensely wider in range than that just indicated. Complete comprehension of conduct is not to be obtained by contemplating the conduct of human beings only: we have to regard this as part of universal conduct—conduct as exhibited by all living creatures. For evidently this comes within our definition—acts adjusted to ends. The conduct of higher animals as compared with that of man, and the conduct of the lower animals as compared with that of the higher, mainly differ in this, that the adjustments of acts to ends are relatively simple and relatively incomplete. and as in other cases, so in this case, we must interpret the more developed by the less developed. Just as, fully to understand the part of conduct which Ethics deals with, we must study human conduct as a whole; so, fully to understand human conduct as a whole, we must study it as a part of that larger whole constituted by the conduct of animate beings in general.

"Nor is even this whole conceived with the needful fulness, so long as we think only of the conduct at present displayed around us. We have to include in our conception the less-developed conduct out of which this has arisen in course of time. We have to regard the conduct now shown us by creatures of all orders, as an outcome of the conduct which has brought life of every kind to its present height. And this is tantamount to saying that our preparatory step must be to study the evolution of conduct." (D. E., § 2.)

Moral conduct is either prescribed unevolved, or evolved unprescribed, or evolved as prescribed. If prescribed unevolved, or evolved as prescribed it is prescribed by superhuman personal Will to human personal Will. If evolved unprescribed, it implies impersonality, and excludes Will. Prof. Hæckel and other materialists teach, that nature evolves unprescribed, or in Prof. H.'s phrase, "with no plan drawn up beforehand." Mr. Spencer says, as we have seen, that "Moral phenomena are phenomena of evolution."

But the whole terminology of the evolution theory indicates its origin in materialistic philosophy. "The instability of the homogeneous," "the integration of matter is the dissipation of motion," and so on, show that matter only is in the mind of the evolutionist. When it was extended over the whole field of the universe, either evolutionary terminology must have a secondary and figurative meaning as applied to the sphere of mind, or mind itself must be materialized; that this was Mr. Spencer's conclusion we shall see further on.

But whether moral conduct is under nature or supernature or both, in Mr. Spencer's opinion, it is an evolution.

But if conduct is an evolution and evolution is necessary, then conduct is necessary, and therefore not under moral authority or moral responsibility.

But, it is not clear how conduct, which is an act of Will, can be strictly under the laws of evolution. There may be some real instability to a *fancied* homogeneity of conduct; there may be some fancied dissipation of motion in the conduct of the human race and some fancied integration of conduct, of moral institutions, and of moral ideas; from incoherent moral ideas may come more coherent ideas, and so on through other evolutionary movements; but to apply evolution to moral conduct seems to be forcing the theory; but for the present let us consider it as a source of moral conduct, as is claimed for it.

3. Therefore, all so-called Natural Morality is a necessary evolution. In the end it will be evident that, as to this philosophy, the conduct called Natural Morality is not only an evolution, as specially taught by Mr. Spencer, but that it is a necessary evolution, as taught by both Mr. Spencer and Prof. Hæckel. This conclusion is reached by the argument already given; and will now be confirmed by that which is added. Evolution is either natural or supernatural. If natural, then, as nature, according to Prof. Hæckel, has no method or plan, natural evolution has no method or plan. If natural evolution has no method or plan, then moral conduct grounded in nature can have no method or plan. If moral conduct grounded in nature has no method or plan, then Mr. Spencer's definition of ethical conduct, as "acts adjusted to ends," is impossible. For, "adjustment of acts to ends," implies a method or plan in nature, which Prof. Hæckel denies. Now either Prof. Hæckel errs in denying method or plan to creation, or Mr. Spencer errs in defining conduct as "acts adjusted to ends." If there is no method or plan of adjustment in an all-including creation, there can be no method or plan of adjustment in a specially included conduct. But, if there is Will—intelligence—adjustment of acts to ends, in the lower sphere of conduct, why is there not Will—intelligence—adjustment of acts to ends in the higher sphere of nature? If there is no plan—no adjustment of acts to ends in universal nature, as Prof. H. teaches, how can there be any adjustment of acts to ends in particular nature of conduct, as Mr. Spencer teaches? To Prof. H. the absence of "plan in creation" is the correlative presence of Necessity. He sees necessity where he sees no plan. In this doctrine of a necessary nature, all materialistic evolutionists agree. Dr. Maudsley ("Body and Will," p. 124) says, "It is a law of Nature, and therefore a necessity, that the sun rises day after day." He does not account for the law of nature, and so he does not define necessity.

Mr. Spencer says (D. E., § 22), "Throughout the whole of human conduct, necessary relations of causes and effects prevail." Again: "The connexion between cause and effect is one that cannot be established, or altered, by any authority external to the phenomena themselves." (*Ib.*) It is sufficient that the authority be internal to the phenomena: but whence the phenomena?

Mr. Spencer says (D. E., § 22), "Moral principles must conform to physical necessities." For moral principles to conform to physical necessities, they must be, not only numerically distinct, but they must be essentially different. But Mr. Spencer makes them psychologically the same.

If matter evolves mind, or, if physical necessities evolve moral principles, as we understand Mr. Spencer to teach, they are conformed in the very process of evolution. Neither human will nor human intelligence have any conforming to do. Moral principles are so-called as a designation of a special phase or manifestation of physical necessities. Essentially they are the same.

Principle is not necessity, nor is necessity principle. If principle is derived from underived necessity, then it is not principle, but only a manifestation or mode of necessity. If principle is underived, then underived moral principle cannot conform to underived physical necessity. The eternal cannot conform to the eternal. There is no conformity between equals or co-ordinates. But Mr. Spencer, in making "moral phenomena the phenomena of evolution," and in making evolution an underived, unintelligent, unconscious, impersonal, necessary process, includes moral principles in physical necessities ; and to speak of moral principles as conforming to physical necessity, of which it is already only a mode, is a distinction without a difference. If moral principle and physical necessity are the same, there is identity ; but there can be no conformity of the same to the same. If there must be a conformity between the two that there is not in the nature of things, they must be different in kind, and, if different, there is no *nexus* of necessity between them. The underived is necessary to the derived, as the foundation is necessary to the superstructure, for without the underived the derived could not be.

If there can be no evolution with Will and without necessity, so there can be no morality with necessity and without Will. As necessity is the basis of evolution, so liberty is the basis of morality. If nature be the basis of a necessary evolution, so supernature must be the basis of a free morality. To define nature is to prove supernature; for nature is the known and visible part of supernature, the unknown and invisible whole.

Evolution as a method under Power, is free; but evolution under Power without method is necessary. Moral or free conduct must be under a method of Power; if not under a method of Power, human conduct is not moral. The simple question is: Is there Will in the universe? Will that is Will, and not a mere necessary energy of impulse?

Here the alternative is fully presented of plan or necessity. According to Prof. Hæckel there is no intelligent, prescribed, created plan or method of evolution, but a direct, sharp, unequivocal doctrine of a necessity in all things. If evolution as a method of Power, is denied, this system of necessary materialism is consistent in matter, whatever may be said of it as to mind. Extracts from the "Data of Ethics" show how much the idea of necessity runs through Mr. Spencer's presentation of the theory of evolution and of evolutionary morality. That theory is understood to hold, that an unintelligent, unconscious and impersonal, natural Power evolves the universe of mind and matter; not because it intends it, wills it, or desires it, but because it *must*. The Power to evolve Nature is held to be this powerless Power of Necessity—powerless because it has no power to do, otherwise than as it does; and that any system of Natural Morality must have in it this element of Necessity.

According to the theory of atheistic evolution, Nature works only by necessary evolution, without Will; Necessity ignores Will, and Will ignores Necessity. "The Power manifested throughout Evolution" has no Will in itself, and knows no Will out of itself. If necessary Nature evolves Will as an impulse of desire, it cannot evolve the decision of that Will without destroying the Will itself. Will, to be Will, must be free. Recognizing Will, moral conduct is commanded as free, and is not evolved as necessary. So far as Will is ignored, moral conduct is evolved as necessary and is not commanded as free; and just as conduct is not free, so it is not moral.

Morality grounded in nature is called, as we have said, natural morality, and is an evolution either natural or supernatural. All evolution with plan *in* nature is supernatural *to* nature. All evolution without plan is natural, and therefore necessary. All evolution without plan is necessary rather than contingent, for contingent evolution is no evolution.

Man, in "Morality grounded in nature," called Natural Morality, by observing what Nature does under certain circumstances, infers what, in nature, is best for him to do under other and similiar circumstances. In morality "claiming supernatural authority," man not only observes what nature does, and reflects upon what nature, as a reflection of supernature, makes it wise for him to do, but, looking beyond, around and above Nature, he calls directly to the omnipresent Parent, Lord, what wilt *thou* have me to do? In the latter case a moral law is prescribed by authority; in the former, man infers, not a law, but a certain necessity of conduct! But natural necessity is not natural morality. Morality is obedience to moral law; but evolution is not obedience—it is only the process of a method. What is called Natural Morality is the conformity of the conduct of rational beings to "the constitution of things." It is intelligent, conscious, personal man, watching unintelligent, unconscious, impersonal phenomena, rather than the Power behind the phenomena.

In evolution force is force. It makes no essential distinction between mind-force and matter-force. It distinguishes mind-force from matter-force only in its degree and attributes. In poetic language, these matter-forces may be said to have moral and immoral behavior—they have their likes and dislikes—their sovereignty and subordination. It is said that chlorate of potash when heated alone will explode like gunpowder; and yet, when heated in the presence of a black oxyde of manganese, it gasifies in quietness and safety. The chlorate of potash behaves in the presence of the manganese as if it knew the presence of a master. Still, it is only unintelligent force watching and subjugating unintelligent force. But will it be contended that mind-force watches the phenomena of matter-force only to avoid, or make them available? Is mind simply the manganese watching the heated potash? Is it simply one intelligent force watching and manipulating all unintelligent forces? Are the watched and the watcher both only different modes of matter? Is human personality only a name for a material evolution to be obliterated in a material dissolution?

Mr. Spencer himself says in the Preface to his "Data of Ethics," "What differences exist between Natural Morality and supernatural Morality, it has become the policy to exaggerate into fundamental antagonisms."

The fundamental antagonism is not between two moralities, but between the two sources of authority—nature and supernature—of the one morality. Authority must be of one above, over one below; and unless there be supernature, there can be no authority over nature; for nature cannot be superior to itself. If natural morality is the natural manifestation of supernatural authority, these fundamental antagonisms become fundamental agreements. We have not two moralities, or two systems of morality, or two authorities of morality. The authority is one and the morality is one. The methods of proof are two—the Natural and the Supernatural—or the proof in evolution and the proof in inspired revelation. The proof of moral rules and ends in nature, by evolution, is called Natural Morality. This method of morality is agnostic or silent about the power by which evolution is evolution.

Morality is called Natural Morality when, denying supernatural authority, it claims to be grounded in nature only. But, does the grounding in nature only, give morality a natural authority; or does it dispense with the idea of authority altogether, and make it a mere evolution, as inevitable or necessary as all other evolution is claimed to be? It is calling that natural morality which we expect to show is, in fact, supernatural morality. It denies the invisible part of the visible. It denies the Factor in the fact, the lawgiver in the Law.

"We have became quite familiar," says Mr. Spencer, "with the idea of an evolution of structures, throughout the ascending types of animals. To a considerable degree we have become familiar with the thought that an evolution of functions has gone on *pari passu* with the evolution of structures. Now advancing a step, we have to frame a conception of the evolution of conduct, as correlated with this evolution of structures and functions." (D. E., § 3.)

"Conduct is acts adjusted to ends." (D. E., § 2.) "Acts are called good or bad, according as they are well or ill adjusted to ends." (*Ib.*) "Evolution becomes the highest possible when the conduct simultaneously achieves the greatest totality of life in self, in offspring, and in fellow men ; so here we see that the conduct called good rises to the conduct conceived as best, when it fulfils all three classes of ends at the same time." (*Ib.*, § 8.) This is natural morality. It is human acts adjusted to human ends. But acts, ends, and adjustments are evolutions ; and, if evolutions, they are necessary.

Some contend that evolution is the free *creative* method of an *impersonal* Creator. This would imply an impersonal intelligence, and an impersonal Will, and an impersonal "Power manifested through evolution work." From the consciousness of our own personal Will and intelligence, we can form no idea of impersonal Will and intelligence ; and so, in all ages, human personality has thought of a superhuman personality, to account for its own personality.

Evolutionary necessity being admitted or proved, warrants the direct conclusion that evolutionary conduct called Natural Morality, being evolved like gravitation, electricity, and everything else in "the Constitution of things," should be called mere natural phenomena, not natural morality. Where there is no Will, there is no morality—no one to command and no one to obey—and no responsibility, either personal or civil.

If, according to Prof. Hæckel, that which is without method or plan is necessary, then all natural evolution, being the evolution of a necessary nature without method or plan, as distinguished from supernatural evolution, with a method or plan, is necessary evolution. The alternative is Will or Necessity—nature under supernatural Will, or nature under natural necessity. If nature is necessary and if nature is all, then natural morality is (*a*) Necessary in the agent. The most pressing question in the evolution of morality is: Is man so far a free or moral agent as to enable him to adjust the acts of his conduct to his own and the happiness of others, as an end? Has he a Will so free that it is in his power to obey or to disobey moral authority? The still earlier question in this agnostic evolutionary philosophy is: Is there any authority, strictly so-called, in the universe? or are the acts of man's conduct necessary evolutions, making his Will identical with necessary desires or motives? How are we to understand Mr. Spencer when he says, "That every one is at liberty to do what he desires to do (supposing that there are no external hindrances) all admit; though people of confused ideas commonly suppose this to be the thing denied"? (1 Psy., § 219.)

The Will which he thus admits to be free, his system proves to be necessary. The moral liberty here admitted, seems to be inconsistent with the evolutionary necessity afterwards affirmed by Mr. Spencer, when he says: "But, that every one is at liberty to desire or not to desire, which is the real proposition in the dogma of free Will, is negatived as much by the analysis of consciousness as by the contents of the preceding chapters." (*Ib.*) "Memory, Reason and Feeling simultaneously arise as the automatic actions become complex, infrequent and hesitating; and Will, arising at the same time, is necessitated by these conditions." (*Ib.*, § 217.)

Does evolution make causes free and effects necessary? Does Mr. Spencer mean, that the Will, arising necessarily, is, when arisen, a free Will? Is it possible for the Will, necessary in its origin to necessitate its liberty? He says:

"We speak of the Will as something apart from the feeling or feelings which for the moment prevail over others; whereas it is nothing but the *general name* given to the *special feeling* that gains the supremacy, and determines action. Take away all sensations and emotions, and there remains no Will. Excite some of these and Will becoming possible, becomes actual only when one of them or a group of them, gains predominance. Until there is a motive (mark the word) there is no Will. That is to say, Will is no more an existence separate from the predominant feeling than a king is an existence separate from the man occupying the throne." (*Ib.*, § 220.) The Italics are our own.

This doctrine plants Mr. Spencer's whole evolutionary system of psychology in the very centre of materialism. The meaning is the same when he says, "Moral principles must conform to physical necessities." (D. E., § 22.) He holds that the Will is as physical as the feelings; he denies that it is "something apart from the feeling or feelings which for the moment prevail over others;" he claims that "It is nothing but the general name given to the special feeling that gains the supremacy and determines action and that the evolution of these feelings is beyond human control."

This he confirms by saying, "Take away all sensations and emotions and there remains no Will." (*Ib.*)

If correctly understood, Mr. Spencer denies the freedom of the Will, and in denying the freedom of the Will, he denies moral responsibility, and in denying this, he denies morality itself. His words, including those in parenthesis, are, "Until there is a motive (mark the word) there is no Will." But as the motive, so is the Will; if that motive be not free, the Will cannot be free. Again he says, "That every one is at liberty to desire or not to desire, which is the real proposition in the dogma of the freedom of the Will, is negatived." Then, what does he mean when he says, "That every one is at liberty to do what he desires to do, all admit." The Will, we repeat, is necessary, when identified with a necessary motive.

If man must, necessarily, follow necessary desires, there would be no moral agent, and no moral conduct; but this power of a free Will to control necessary desires, constitutes man the subject of moral authority and makes him responsible for moral conduct. That the Will is free, and that the desires and consequences are necessary, are Mr. Spencer's factors with which he attempts to formulate Moral Science. With his material evolution of the necessary Will which he calls free, the success of the attempt would seem to be impossible.

If the Will be a necessary evolution as here claimed, it is a two-fold function, self-expressing and self-repressing the desires, and is, in no sense, separable from them. It is what the desires are—neither more nor less. The Will becomes only the executive energy of the desires. What can be said of the desires, as a whole, can be said of the Will as a part. The doctrine is, that the Will is only a name given to the desires under conditions. As gunpowder is to the explosion so the desires are to the Will. The Will is nothing but the desires in action.

According to this teaching of Mr. Spencer, the desires are physical necessities—they come of themselves and we cannot help it. It is also said that there is in, and inseparable from these physical necessities, as the blush is on and inseparable from the cheek, an energy called Will, which passively hinders or actively helps the desires in which they originate and ever inhere. When the Will hinders the desires that contain it, it does not stand outside of the desires and push them back, *ab extra;* for Mr. Spencer says that the Will is not "something apart from the feeling or feelings which for the moment prevail over the others." Therefore, the hindering power of the Will must be *ab infra*, from within the desires to pull them back—in a word, we are driven to the absurd conclusion that necessary desires are free to suppress themselves or to pull themselves back from themselves or from their gratification, which is themselves. In this these necessary desires simply say No, to themselves, and there is no distinction between Will and desires. Different functions of the *psyche* simply have different names. But, if the Will and desires are psychologically one and the same, the Will, as a part, can have no more freedom than the psychological whole, of which it is a part. One energy of necessary desire cannot be necessary and another free. In other words, there may not be inevitable desires and a free Will; the desires, if they include and generate the function of the Will, are altogether free or altogether necessary. With Mr. Spencer the desires, and therefore the Will, are altogether necessary.

Is this function called Will commissioned by the necessary desires in which it necessarily arises and abides, to react upon the very desires themselves, to control or destroy them? Are the necessary desires necessarily parturient of a necessary Will as their leader or master? If Will is from the desires or is a mode of the desires, it lives and dies in and with the desires. Can that which is being produced repress or destroy that which is ever producing it? The *Natura Naturata* cannot repress or destroy the ***Natura Naturans***. Can the embryo subdue the matrix? Does that which is evolved dominate the Evolver? Does the house reeling above, keep the foundation quiet below, when the earth is quaking? Or rather as the tree comes out of the earth and depends for its life upon the earth, so does the Will, as it is but a phrase—a shadow—an echo—an emphasis—of the necessary desires, live and move and have its being in the desires. How then can the Will be free and the desires be not free? It was a maxim of the civil law—***partus sequiter ventrem***—the status of the mother is the status of the child. A man cannot convey more land than he owns. The desires, as a whole, cannot be necessary, and the Will, as their executive part, be free.

If the desires are necessary, how does free Will emerge from these desires to control them? When it is said that the desires are necessary, and produce an active manifestation of themselves called free Will, which is but a mode or degree of the desires, it can be understood; but it is unthinkable by any law of nature known to science, that the desires can evolve their own master. If the desires are free, how do they evolve a power to restrain their freedom? Do they abdicate their power? How does the throne evolve the King? How can any irresponsible necessity evolve a responsible liberty? Natural Morality would seem to be impossible until necessity evolves freedom—until Nature evolves supernature—until known facts evolve an unknown Factor—until creation evolves its Creator—until the descendant evolves the ancestor—until the effect evolves its cause—until the throne evolves the King—until that which is not evolves that which is. If evolution can progress forever, it may bring a free agent from a necessary order. Then and not till then, is there conduct so free as to be moral and therefore responsible.

If we understand the evolution taught by Mr. Spencer, it covers all things, events, feelings, and conduct. Morality is moral conduct. Conduct—moral conduct—is, with Mr. Spencer, the evolutionary adjustment of moral acts to moral ends. But how can *free* moral acts be a *necessary* evolution?

Adjustment implies purpose—reflection—judgment. Are these an evolution? If so, how are they free? Is the willing to do or not to do an act an evolution? If so, if the willing is necessary; if the willing is not evolution, then the system of evolution does not cover all the energies of the universe. It would seem that we must give up necessary evolution, or human free Will.

Mr. Spencer speaks of conduct as the adjustment of acts to ends. But here arises *the* question—whence this adjustment? As no act can foreknow its own end, so these acts cannot be self-adjusted to these ends. Adjustment implies an Adjuster; and includes foreknowledge of the ends to be reached, and of the efficient means to reach them. And the power must be equal to the knowledge—there must be no failure. In referring to the use of the words "good and bad," Mr. Spencer says, "Observation shows that we apply them according as the adjustments of acts to ends are or are not efficient." (D. E., § 8.)

We have seen that man cannot be the free adjuster of his moral acts to his moral ends. What is the extent of his knowledge, and what is the efficiency of his power? How free is his Will? If evolution—necessary evolution—be true, man is placed in an universal system of universal necessity—with necessary desires before his Will acts, and necessary consequences after his Will acts; and can his Will, thus found between two necessities, be free enough for moral responsibility? As defined by Mr. Spencer, "Morality properly so-called (is) the science of right conduct." (D. E., § 21.) But what is right conduct, and how can conduct be right under the factors of a free Will that is not free and necessary desires? Conduct is right when right acts are adjusted to right ends. Man does not fix the end, but it is fixed for him; and so are his desires out of which his Will is evolved or is but a mode. Then how can his Will of doubtful freedom, absolutely under the dominion of necessary desires or "motives," adjust its acts to an end as necessary as his desires?

When free Will controls necessary desires so as to produce happiness, the conduct is said to be right; when necessary desires are left so uncontrolled by free will, as to produce unhappiness, the conduct is wrong. But the Will is too weak to oppose the desires; indeed it is but a mode of the desires. Mr. Spencer says, "I conceive it to be the business of Moral Science to deduce from the laws of life and the conditions of existence what kinds of action necessarily tend to produce happiness, and what kinds to produce unhappiness." (D. E., § 21.) But if there be *necessity* in any part of his system of morality it is in every part; and necessary morality is no morality. It is inconceivable how blind power could give the power to see—how this "Power manifested throughout Evolution works," should fix the consequences or effects, and not fix the conduct or cause. Why should this blind Evolution be so partial? It discriminates between free conduct and necessary consequences, as if it had intelligence. Is the necessity of consequences *blind* evolution, or did this Power *intend* to make them necessary?

Mr. Spencer distinguishes his system from other utilitarian systems, by accounting for the results of conduct for which they do not account. They observe that certain *results* follow certain acts. What are mere "results" with them are necessary "effects" with him. He says, "So long as only *some* relation between cause and effect in conduct is recognized, and not *the* relation, a completely scientific form of knowledge has not been reached. At present utilitarians pay no attention to this distinction. Even when it is pointed out, they disregard the fact that empirical utilitarianism is but a transitional form to be passed through on the way to rational utilitarianism." In this causation-theory of morality we may learn from a *necessary* effect the moral *character* of the cause. But, as Mr. Spencer leaves the question, "a completely scientific form of knowledge has not been reached," in that, while he accounts for the effect of conduct as necessary, he is less definite as to the necessity or freedom of the cause. In this causation-morality man must live first and observe the necessary effects of conduct, in order to know how he ought to have lived. He must reach the end to know how to begin. In this, literally,

> "'Tis the sunset of life that gives us mystical lore,"

but it is not true that

> "Coming events cast their shadows before."

If every act of conduct is either essentially right or essentially wrong, nature ought, in this cause-and-effect theory of conduct and its experience, to distinguish between suffering as an effect of ignorant conduct, and suffering as a punishment for wilful conduct; but Nature makes no such distinction. In this causation or evolution theory Nature seems to punish first, and tell us why afterwards. In the conscience of juristic law, laws must be *prescribed*. It was this demand of the plebeians that gave rise to the Laws of the Twelve Tables.

If "throughout the whole of human conduct necessary relations of causes and effects prevail," there can be no natural morality; for, if the effects be necessary, the cause (conduct) must be free, or there can be no morality of any kind. If the Will in conduct be free, as all things in nature are said to be necessary, the Will must be supernaturally free, and so the morality is supernatural and not natural.

From the standpoint of Mr. Spencer, that moral conduct is an evolution, we say it follows that

Conduct called natural morality must be, in the logic of evolution, not only necessary in the personal agent, but also

(*b*) Necessary in the causes. Mr. Spencer says, "Throughout the whole of human conduct, necessary relations of causes and effects prevail." (D. E., § 20.) But in this causation-morality nothing is clear. For Mr. Spencer says in his "Psychology" (§ 219) "that the composition of causes is so intricate, and from moment to moment so variable, that effects are not calculable." (1 Psych., § 219.) "We are no more able," says Mr. Spencer, "to form a circumscribed idea of Cause, than of Space or Time; and we are consequently obliged to think of the Cause which transcends the limits of our thoughts as positive though indefinite. Just in the same manner that on conceiving any bounded space there arises a nascent consciousness of space outside the bounds; so, when we think of any definite cause there arises a nascent consciousness of a cause behind it." (F. P., § 26.)

For in what is the necessity? Is it in the new *relation* of free causes to free effects or of necessary causes to necessary effects? If effects are necessary, so are their causes; for that which is a cause to an effect after it, was the effect of some cause before it; and once necessary, never free. And for the same reason, if free as cause, the effect is free; for like parent, like child; once free, never necessary.

We must distinguish between an *occasion* of an effect and the *cause* of an effect. The occasion is not the cause. If cause does not intelligently *create* its effect, it unintelligently continues itself on into an effect as a mode of itself. Cause is supernatural to an effect, and effect is natural to a cause.

Mr. Spencer announces the materialism of morality in the doctrine that "Moral principles must conform to physical necessities." (D. E., § 62.) He announces necessary morals in the declaration that "Through the whole of human conduct necessary relations of causes and effects prevail." (D. E., § 56.) As morality is in conduct and not in the consequences of conduct, morality cannot be said to be necessary unless conduct is necessary. But we may expect to find, that if effects are necessary, so are causes. The teaching of Mr. Spencer is, that when a man does an act classed as good, certain effects of well-being *necessarily* follow. But Mr. Spencer himself puts a case where conduct classed as good, is not followed by the necessary effects of well-being. He says :

"Great mischief has been done by the repellent aspect habitually given to moral rule by its expositors; and immense benefits are to be anticipated from presenting moral rule under that attractive aspect which it has when undistorted by superstition and asceticism. If a father, utterly enforcing numerous commands, some needful and some needless, adds to his severe control a behavior wholly unsympathetic—if his children have to take their pleasure by stealth, or, when timidly looking from their play, ever meet a cold glance or more frequently a frown ; his government will inevitably be disliked, if not hated ; and the aim will be to evade it as much as possible. Contrarywise a father who, equally firm in maintaining restraints needful for the well-being of his children or the well-being of other persons, not only avoids needless restraints, but giving his sanction to all legitimate gratifications and providing the means for them, looks on at their gambols with an approving smile, can scarcely fail to gain an influence which, no less efficient for the time being, will also be permanently efficient. The controls of such two fathers symbolize the controls of Morality as it is and Morality as it should be."

"Nor does mischief result only from this undue severity of the ethical doctrine bequeathed us by the harsh past. Further mischief results from the *impracticability of its ideal.* In violent reaction against the utter selfishness of life as carried on in barbarous societies, it has insisted on a life utterly unselfish. But just as the rampant egoism of a brutal militancy was not to be remedied by attempts at the absolute subjection of the ego in convents and monasteries; so neither is the misconduct of ordinary humanity as now existing to be remedied by upholding a standard of abnegation *beyond human achievement.* Rather the effect is to produce a despairing abandonment of all attempts at a higher life. And not only does an effort to achieve the impossible end in this way, but it simultaneously discredits the possible. By association with rules that cannot be obeyed, rules that can be obeyed lose their authority." (Pref. D. of E., VI.) The Italics are our own.

If this be true, how is it that "throughout the whole of human conduct, *necessary* relations of causes and effects prevail ?" Is the harshness of the father the "necessary effect" of the conduct of the children ? Which was first ? Did the playful conduct of the children as a cause necessitate the harsh conduct of the father as an effect; in other words, did the playfulness of the child naturally conduce to the harshness of the father ?

The father became irritable when he ought to have been pleased. What was the cause ? Certainly not the playfulness of the children, though that was the occasion of his irritability.

In his "Psychology" (§272), Mr. Spencer says, "We know nothing of cause save as manifested in existences we class as material—either in our own bodies or surrounding things." If all cause is material, then cause in conduct is material; and is as necessary as any other material cause; and if necessary, it is not responsible; and if not responsible, it is not moral conduct, any more than the pull of gravitation, or a current of electricity, is moral conduct.

Is Will cause? If it is, then, as Mr. S. says, Will is in motives, and as motives are necessary, so Will as cause is necessary. If Will is not cause of conduct, what is? Man is not responsible for any other cause.

The evolution theory starts with necessary matter, evolving necessary desires or feelings; necessary feelings "that gain supremacy and determine action," is called Will; this necessary Will is cause of conduct; this necessary conduct produces necessary effects; and this necessary conduct-cause necessarily producing effects, is what is called Natural Morality, but which is nothing like Morality of any kind.

"It is unquestionable that the scoldings, and threats, and blows, which a passionate parent visits on offending little ones, are effects actually produced in such a parent by their offences; and so are, in some sort, to be considered as among the natural reactions of their wrong actions." (Spencer, "Moral Education," p. 179.) But are the actions of these little ones morally wrong?

If throughout the whole of human conduct necessary relations of causes and effects prevail, then passions as effects "actually produced" are, like all other effects, *necessarily* produced. From inexperience, a child puts its hand in the fire, and is burned. Beginning with inexperience, as the initial cause of the child's burning its hand, we have a necessary inexperience, a necessary putting of its hand in fire, a necessary burning, and a necessary pain —all was necessary, because, from inexperience, the child could not do otherwise than it did. But, in the chain of facts, the causes were as necessary as the effects, and the effects were as free as the causes. That which one was, the other was.

The necessary relation of cause and effect is the old doctrine of fatalism, certainly as to the consequence of conduct, if not as to conduct itself. By cutting off conduct as cause, we cut off necessary effects. If we can cut off cause, we are a power above cause, and by being a power above cause, we are a power above necessary effects. But is conduct under our controi, in this scheme of necessity? Could the inexperienced child cut off the cause which made it fret? The doctrine of religion is, that there is a free Power above a seemingly fixed method below.

But denying Will, the scientific idea seems to be true, that some physical acts must be necessarily followed by all their possible physical consequences, making no allowance for ignorance, for surprise, or for overwhelming environment. But it is the teaching of Scripture as well as the common thinking of the world, that in many acts of conduct "if there be first a willing mind, it is accepted according to that a man hath, and not according to that he hath not." (2 Cor. viii., 12.)

The question is, shall we believe in an impersonal Power without holiness, intelligence or mercy, behind scientific morals; or in a personal Power with holiness, intelligence and mercy, behind religious morals? In matter there is no sin, and no need for mercy; and in life there is great sin and great need for mercy. If we sin no more than matter, we need no more mercy than matter needs. If we are marked when we do amiss, who can abide it? While the sins of the body—of our material part—are as inexorably punished in religious morals as in scientific, the sins of the mind are no more inexorably punished in scientific morals than they are in religious morals. The system of scientific morals acknowledges only a blind, unintelligent, neither holy nor unholy, power behind to enforce it, while religious morals acknowledge responsibility to an all-knowing, all-seeing, all-holy, all-powerful God. Materialistic evolutionary power is not a moral power, nor can you call the necessary relation between causes and effects, a moral relation. If consequences of conduct are irresistibly necessary, beyond help or remedy, how far as cause is conduct free? Does nature compel us to act as we do, and then compel us to suffer for what we could not help? According to the fundamental principle of the "Data of Ethics," "Throughout the whole of human conduct necessary relations of causes and effects prevail." It entirely disregards ignorance and inability, and the influence of other lives. Nature, in a system of necessity, makes no allowances. Above the heartless command of nature, Do this or die! religion hears the voice of God, saying, Love me and live!

Mr. Spencer's "method of determining right and wrong," is good as far as it goes, and as far as it can be proved; but as in the relativity of all things, causes are quite indeterminate, we cannot say what are their necessary consequences. We need something more, and more immediate than the inductive conclusions of experience as to the "nature of things," for our guide and authority. The reasoning of agnosticism as to the impersonal origin of the obligation of morality, stops exactly where it ought to go on—if not at atheism, it certainly does not go on to theism.

As circumstances are multiform in material evolution, and motives are complex in moral evolution, the cause of conduct is not always obvious, and so not the effect. Cause is an *occasion* of power, but not the power. Upon the occasion of bringing two volumes of hydrogen and one of oxygen together, some power which either is not, produces water. Neither gas is cause; and both cannot be what neither is. The explanation is in some unexplained power.

In the former case put by Mr. Spencer, of the irritation of the fretting child passing into the parent and reacting as a force in the parent upon the child in acts of parental beating, we see that if the effect is necessary, so is the cause. Some indigestion or other physical irregularity necessarily irritated the child ; the irritation of the child as a cause necessarily irritated the parent ; the parent being necessarily irritated necessarily beat the child to stop its necessary fretting. Now the fretting of the child was cause, and the fretting of the parent was effect, and the fretting of the parent was cause, and the beating of the child was the effect. Now, if it was necessary that the child from some physical cause should fret, it was certainly not necessary that the parent should fret as an effect of the child fretting; and, if it was necessary that the parent should fret, it was not necessary that the parent should beat the child. If the Will of the parent could and should have prevented it from allowing its own irritation to drive it into beating the child, then the relation between cause and effect does not necessarily prevail. We see human Will constantly presenting effects from following causes. Effects may uniformly follow causes in material phenomena, but not in mental; and in conduct this is the very point not proved.

If, then, conduct be a cause, it is a material cause, for the Will is a power but never a cause ; and if material, is it free or not free? and if not free it is not responsible morality. Does Natural Morality mean the Morality of Matter as distinguished from Supernatural Morality or the Morality of Mind ?

Hitherto we have been considering the adjustment of acts to ends. All has been assumed to be in the power of man—the end was a human purpose, happiness—the acts tending to it were human—the adjustment of the human act to the human end was human—and all this amounted to what is called human conduct.

But now the discussion takes another shape, and other terms are used. For the end—happiness—we have "effect," and for the adjustment of acts to ends, we have "causes." Whether happiness, the end, now called effect, is fixed by outside authority, or in our necessary desires, the cause is man's adjustment of his acts to accomplish this end or effect. The cause would seem to be free, and the effect necessary. But if the human Will is what Mr. Spencer makes it, it is necessary too.

Extrinsically considered, nothing is necessary which any power can prevent; and, as all originating power is preventing power, so nothing is necessary. Intrinsically considered, that which is free to begin is free to stop; and that which necessarily goes on, necessarily began; but nothing necessarily began; for the necessary has no beginning. As nothing is under necessity, therefore all is under Will. *Furthermore, as already seen, if effects are necessary, so are causes; for, that which is cause to a necessary effect, is itself a necessary effect to an antecedent cause.*

As all effects are said to be necessary, and as Will is said to be an effect, so Will is a necessary effect of all before it; but, as Will is a necessary effect, if it is a cause of conduct, it is a necessary cause. It does not cease to be a necessary effect of some antecedent cause, because it becomes a cause of some subsequent effect. If it begins in necessity, in necessity it must continue. If it is necessary on any account, it is necessary on all accounts. The taint of necessity in anything as an effect of what has gone before it, is indelible in it as a cause of what is to follow it as an effect. As to cause, is an effect derived or underived? If it is derived, it cannot be necessary unless its cause is necessary—*partus sequitur ventrem*—as the cause so is the effect. If an effect is derived is it unintelligently evolved? If intelligently created, it is not necessary; for there is no necessity in intelligence. If it is unintelligently evolved it may be said to be necessary, if it can be at all. But no effect can be evolved, because relation of cause and effect is one of law, and law explains the phenomena of uniform repetition. Evolution is the phenomena of progressive energy.

If causes are necessary, then conduct is necessary ; and necessary conduct is neither right conduct, nor wrong conduct, and should not be followed by any of the necessary consequences of conduct. But if conduct is an act of personal free will, and not a necessary effect of an antecedent, necessary cause, then it is not in the succession of cause and effect, and, consequently is not under any necessity to be other than that which may be appointed by administrative will. The *necessary* relations of causes and effects prevail only in material phenomena. If moral conduct is anything more than a physical manifestation, it is free action under a free will, and is utterly impossible under the "necessary relations of causes and effects." "Obedience and disobedience are possible under any moral system ; but the words are meaningless under any system of causal necessity. If there be such a thing as moral responsibility at all, it cannot be for necessary conduct. Reasoning from the consciousness of our own free will, we can formulate a system of moral freedom ; but we have no consciousness of a moral necessity."

Mr. J. S. Mill says: "A volition is a moral effect, which follows the corresponding moral cause as certainly and invariably as physical effects follow their physical causes. Whether it *must* do so, I acknowledge myself to be entirely ignorant, be the phenomena moral or physical ; and I condemn accordingly the word Necessity as applied to either case. All I know is that it always *does*." (" Exam. Hamilton's Philosophy," p. 562.)

A *volition* may be a moral effect, but a volition is not moral *conduct*. The question is, *must* the volition, whether it is in itself a necessary sequence of some antecedent or not—produce conduct, good or bad ? If it must, then there is no escape from good or bad conduct, and so no responsibility. Compulsory action is not responsible action.

If conduct comes out of the Will, and Will comes out of desires, and desires are necessary evolutions, then causes of conduct, even conduct itself, are as necessary as are effects. That which Mr. Spencer calls free Will, includes no idea of authority or responsibility. In other words, Mr. Spencer's idea of free Will is only, as said before, a mode of necessary desire. With necessity before the Will acts, and necessity after its action, there is but little for free and responsible action. In necessary conduct there is neither authority nor responsibility; indeed, necessary conduct is not moral conduct. To be moral, it must be required and not compelled; to be required, there must be an authority to require it, and an agent free to obey it; to be competent authority there must be an unconditioned superhuman Will, to require conduct of a human Will sufficiently free to obey.

The cause-and-effect method of moral knowledge, with a theistic authority, was announced by the Master, over eighteen hundred years ago, when He said:

"Beware of false prophets, which come to you in sheep's clothing, but inwardly they are ravening wolves. Ye shall know them by their fruits. Do men gather grapes of thorns, or figs of thistles? Even so every good tree bringeth forth good fruit; but a corrupt tree bringeth forth evil fruit. A good tree cannot bring forth evil fruit, neither *can* a corrupt tree bring forth good fruit. Every tree that bringeth not forth good fruit is hewn down, and cast into the fire. Wherefore by their fruits ye shall know them." (Matt. vii., 15–20.)

But we must distinguish between matter-causes and mind-causes. Matter-causes, under like conditions produce like results. An unsupported body always falls towards the earth, with a velocity directly as to mass and inversely as to the square of the distance. Two volumes of hydrogen to one of oxygen are uniformly found in water. Generally it may be said, that heat expands all bodies, and cold contracts them. And so of all other physical causes and their uniform physical effects. Matter-causes are unintelligent and affect unintelligent matter, uniformly but not necessarily. One volume of unintelligent oxygen cannot decline to produce water when united with two volumes of unintelligent hydrogen. Matter has no Will of its own, either to act or to resist action; yet, in matter, action and reaction are uniformly equal and opposite. There is neither conference of material forces, nor consent of material forces expected, and no failure of material phenomena is ever known, because they are not dependent on themselves. Supernatural mind controls nature, if controlled by mind at all. All atoms and combinations of atoms are alike unintelligent.

In mind-cause the case is different. That which one mind intends as a compliment, another mind takes as an offence ; and that which one mind intends as a pleasure, another mind takes as a pain. Minds are unequal in both strength and education ; and so, as causal agents, must produce most unequal effects. If mind is cause at all, it is a creation. Differences of opinion on all subjects—in art, science, and government—all show that mind acting as cause, by no means necessarily produces the same effect upon other and different minds. Matter-cause can be subjected to inductive or scientific methods; but mind-causes cannot.

The necessary relations, therefore, that prevail between physical causes and physical effects do not prevail between ethical causes and ethical effects, and should not be treated in the same way. If conduct, as a cause, is to be considered free, in order to make it responsible, then this necessary relation is between a free cause and necessary effects.

The materialistic doctrine that "throughout the whole of human conduct necessary relations of causes and effects prevail," excludes all personal Will, human and superhuman, certainly in the consequences, if not in the cause. And yet, if, so far as we can cause anything, we cause it through the energy of our Wills, what but Will causes all else ? Is personal conduct (as cause) necessarily rewarded or punished by impersonal Power ? In other words, does unintelligent, impersonal nature, unintelligently reward or punish, intelligent personal conduct ? But admit that effects necessarily follow causes; we return to the question, are causes necessary ? That is the important question respecting conduct and its responsibility. *Uniform* relations of cause and effect do not prove *necessary* relations. The Power that can follow with consequences is the Power that can stop. If there be any necessary causal relations, they are between material antecedents and material consequences. Conduct and its sequences are not related as cause and effect, but as acts and adjustable disciplines or rewards.

There is no authority in cause, either physical or moral. Cause is a supernatural mystery; authority is a personal command to a person. It is only as cause is regarded as a manifestation of supernatural and personal Power behind it, that it can be an authority.

Moral action is the free action of a free being. The more necessity, the less is the action moral. If there be necessary consequences of the constitution of things, and the constitution of things includes all thoughts, feelings and purposes of human conduct, then, not only the consequences are necessary, but the antecedents are also necessary. If the constitution of things excludes conduct, why should it include the necessary consequences of conduct? It would seem that the evolutionary materialists are fairly driven to the conclusion that all thoughts, desires and actions are only modes of matter, and are without any moral character whatever.

If conduct is not cause, how is it connected with the constitution of things by necessary consequence? Human conduct is the act of the human will; cause and effect are phenommena of the superhuman will. These two wills cannot be *necessarily* related. What a human will does, a superhuman will may punish, pardon or reward; and either is a sequence in the pleasure of prerogative; but neither punishment, pardon, nor reward is a *consequence*. Sequence is under prerogative; consequence under necessity.

If conduct is cause to the effects that follow it, as the argument of evolution claims, then the act of the human Will is cause; for human conduct is the act of the human Will. If Will is not cause, then conduct is not cause; and, if conduct is not cause, then, there is no necessary relation of cause and effect between it and the sequences attending it. All conduct is human; no cause is human. All conduct is human; all cause is superhuman. All conduct is a separate act; all cause is part of a system. Conduct does not control its sequences; cause imposes its consequences. The will of course (if cause is will) is continued over into its effect; the Will of conduct stops with the act of conduct. Conduct is an act; cause is a power. In other words, physical causes *must* produce physical effects.

Moral causes such as causal-Will produce conduct to which sequences called effects must be *adjusted*, by some other personal Will, or by some impersonal power.

Ethical conduct is action with an ethical purpose. Physical cause, as mere cause, has no ethical purpose according to materialistic theory; it has no intelligence to form an ethical purpose, or purpose of any kind. The theory of Mr. Spencer if rightly interpreted is, that however free the purpose of conduct may be, the sequences, under some impersonal power locked up in the constitution of things, visits upon conduct, which it treats as a cause, some suitable and inevitable experience as effect. If there is will in the conduct, there is none in the effect. If there be Will in the effect, it is not the same Will that is in the cause; for the Will in cause is personal and human ; the Will in the effect, if any, would be impersonal and superhuman.

If we admit, that we must accommodate our conduct to the persistence of nature, the question arises, persistence in what? In intelligent or in unintelligent nature ? The moment the materialist presents anything in nature that our mind can understand, he presents the mind of nature—natural persistence is mental persistence. The mind in nature is the only thing in nature that our minds can understand. Mind can communicate with mind, but not with matter, and matter cannot communicate with mind. If ethical conduct is the acting with an ethical purpose, are the subsequent disciplines of such conduct without ethical and therefore intelligent purpose ? Rather, does not the fitness of the moral disciplines to immoral conduct, show more intelligence, higher moral aims, and stronger will power than is seen in conduct itself ? Conduct is an act of purpose and will; and can it be that its sequence is the purposeless effect of a blind Power without Will ? Between the will of the purpose of conduct and the will of the purpose of succeeding disciplines—in other words, between human Will and superhuman Will, as we have said, there can be no necessary relations of cause and effect. Ethics are free not necessary. If there are physical causes that may be called necessary, and physical effects that may be called necessary to the cause, there can be no necessary ethical causes, and no necessary ethical effects. The consequences of cause, we call effects, but the sequences of conduct we call disciplines. The superhuman Will appears to be uniform in physical effects, but it is sovereign and prerogative and may or may not be uniform in disciplines.

(c) Necessary effects. Mr. Spencer says: "Good and bad results cannot be accidental; but must be the necessary consequences of the constitution of things." (D. E., § 21.) "Throughout the whole of human conduct, necessary relations of causes and effects prevail." (D. E., § 20.) But "effects are but the sums of the conditions." When speaking of necessary causes, so now, if effects are necessary, so were the causes; for effects were once causes; and once free, never necessary; or once necessary, never free.

But what is this "constitution of things," making certain consequences of conduct necessary? Constitutions are organic, and imply an Organizer. Is this constitution of things an entity? Is it intelligent or unintelligent? natural or supernatural? personal or impersonal? What place has the human Will in it? Does it recognize a superhuman will? What does it include and what does it exclude? Does it exclude conduct, but include the consequences of conduct?

If the constitution of things includes both conduct and its consequences, then, if conduct is responsible, the conduct-part of the constitution of things is free, and the consequence-part is necessary. This would be impossible; for, in this impersonal constitution of things, all must be free or all must be necessary. But how, in a fixed constitution of things can conduct be free, and the consequences necessary, unless WILL, human if not superhuman, is admitted as a factor? But, unfixed Will unfixes the constitution of things. It seems that the freedom of the will must be given up, or that the universality of the fixed constitution of things, apart from the control of supernatural Will, must be given up. Does this constitution of things understand our conduct, or must we understand the constitution of things, not expecting to be understood by it in return? Is there any sympathy, mutuality or reciprocity in the relation of conduct to the blind constitution of things? Or is this constitution of things something we must shun, dread and hate? If nature will not agree with us, but we must agree with nature, then we must know what nature is. But if nature is unintelligent, it knows nothing and can tell us nothing. We must find out nature the best we can, not hoping to find out that most which we most need to find out—the basis of things, and the authority for conduct.

"It has long been fully recognized that ethical rules have a basis in the nature of things, and that the right and wrong of human actions is to be determined by their good and bad consequences. But this involves the element of cause and effect, which obviously opens the subject to legitimate scientific inquiry." (Intro. D. E., p. 3.)

But the unscientific grasp which scientific inquiry has laid upon moral or ethical questions, will be seen in the fallacy of treating ethical causes and ethical effects as if they were physical causes and physical effects; whereas they are altogether different.

The absence of authority is most obvious in Mr. Spencer's whole theory of causation-morality. He teaches that conduct is a cause, and experience an effect—that conduct, as cause, is good, and may be repeated, when the effect is good; and the reverse, conduct as cause must be considered bad, and not be repeated, when the effects are bad.

Mr. Spencer says, "All the current methods of ethics have one general defect—they neglect causal connections. Of course I do not mean that they wholly ignore the natural consequences of actions; but I mean that they recognize them only incidentally. They do not erect into a method the ascertaining of necessary relations between causes and effects, and deducing rules of conduct from formulated statements of them." (D. E., p. 61.)

Yet, over eighteen hundred years ago St. Paul said, "Be not deceived: God is not mocked; for whatsoever a man soweth, that shall he also reap. For he that soweth to his flesh shall of the flesh reap corruption; but he that soweth to the Spirit shall of the Spirit reap life everlasting. And let us not be weary in well doing; for in due season we shall reap, if we faint not." (Gal. vi., 7–9.) But this states the natural side of a supernatural economy.

The writer of the Introduction to the "Data of Ethics" says:

"It is the peculiarity, and, we may add, it is the difficulty, of scientific ethics, that it is the most stringent of all systems. Where else are we taught so emphatically that the penalties of misdoing follow necessarily in the very nature of things, and cannot be escaped. Scientific ethics teaches that moral laws cannot be broken with impunity, because of the inexorable causal relation between actions and results. This is, indeed, its great power as a controlling system, and it needs but to be thoroughly understood to exert its full influence." (Intro. D. E.)

The mistake seems to be in confounding the uniform with the necessary. If that only is necessary which is uniform, then nothing is necessary; for, in evolution, nothing is uniform. This is proved by the perpetual transformation of the homogeneous into the heterogeneous. Nature ever looks forward to the new, and never backward to the old. But if everything is under Will which is not necessary, then everything is under Will, for nothing is necessary.

Necessity belongs, if anywhere, to the material sphere. It knows no will, human or superhuman. If there is human will, whatever that may be, in conduct, why is there not superhuman Will in the consequences or effect? If evolution has produced enough will in the human agent to make him responsible, why has it not produced Will of superhuman power to control the consequences of conduct? How are we to explain the control, by the Will, of the desires from which Mr. Spencer says it emerges?

Or is all Will in material phenomena denied? But, if Will is denied in material effects, it must of course be denied in material causes; but, if there is will in moral causes, does not that will continue when that will-cause becomes an effect? Or are the effects as material when the causes are moral as they are when the causes are material? If like is from like, then human Will is from superhuman Will; or if like is not from like, then the Will that is, must be created by some Power that Will is not.

If conduct—a something all our own—is the act of human will, why is not disciplinary sequence—a something not our own—the act of superhuman Will? If human conduct is free, why are superhuman sequences necessary? Is the effecting Power less free than the causing power? But if human conduct is necessary through a necessary will, and both result in necessary effects, how is conduct responsible? or where is there any morality, natural or supernatural? The freedom of one and the necessity of the other would show that there is either some one Power making some things apparently free and others apparently necessary, which is our God; or that there is one Power of freedom in cause and another Power of Necessity in effect.

To open or to close the hand is an act of conscious freedom; and if freedom is in anything, necessity is not in everything. If everything is not necessary, where does necessity end and where does freedom begin? We are conscious of some freedom, and are not conscious of any necessity; and, as we have no other proof in ourselves of either, consciousness certifies that freedom is the only proved fact of man's nature. If therefore conduct is consciously free, how can consequences be proved to be necessary? If proved at all, it must be, not by consciousness within, but by observation from without. But this observation informs us only of the fact of uniformity of sequence in material things, but brings us no proof of any compulsory power in moral conduct or its results. Consciousness and the common thinking of mankind prove just the contrary. The phenomena of unintelligent nature appear to be uniform, but as no human mind has ever analyzed the *occulta vis* of what is called causation, and shown it to be necessity, there is no authority to speak of effects as inevitable. We are too apt to mistake apparent uniformity for absolute necessity.

Prof. W. Stanley Jevons has said that "In physical science the truths to be discovered generally relate to the connection of cause and effect, and we usually call them *laws of causation* or *natural laws*. By the *cause* of an event we mean the circumstances which must have preceded in order that the event should happen. Nor is it generally possible to say that an event has one single cause and no more. There are usually many different things, conditions or circumstances necessary to the production of an effect, and all of them must be considered causes or necessary parts of the cause. Thus the cause of the loud explosion in a gun is not simply the pulling of the trigger, which is only the last apparent cause or occasion of the explosion; the qualities of the powder, the proper form of the barrel, the existence of some resisting charge, the proper arrangement of the percussion cap and powder ; the existence of surrounding atmosphere are among the circumstances necessary to the loud report of the gun: any of them being absent it would not have occurred." ("Lessons in Logic," xxviii.)

If effects are natural and therefore necessary according to the constitution of things, why are not causes ? Has causation in conduct, if conduct can be called cause, no place in the constitution of nature ? If it has, then conduct, as a cause, is natural, and if natural, then according to this theory it is necessary ; and if necessary, then it is irresponsible. If conduct is necessary, and therefore irresponsible, then science may well see not only less to punish than does the religion of supernature, but, indeed, it must see nothing to punish. Science cannot admit anything to be wrong in Nature, whether in conduct as cause or in suffering as an effect. According to this logic suffering is undeserved and monstrous. As morality is in conduct, if anywhere, and not in the consequences of conduct, so morality cannot be said to be natural unless conduct is natural. But, if conduct is natural, it is, as an evolution, also necessary. If all that is natural is also necessary, and consequences are necessary, how can conduct if it be natural, be also free ?

It is asked by the learned author of the Introduction to the "Data of Ethics," "Is not this easy system of morals, which arranges for the defeat of justice, more open to the charge of laxity than a scientific system in which penalties are proportioned to transgressions and follow them with a salutary certainty ?" (*Ib.*)

But that depends upon what science considers "transgression," and what it considers "proportionate penalties." If conduct is an evolution—a necessary evolution—there is no transgression. The transgression is as much an evolution as the proportionate penalties. There is no defeat of justice, for there is, in necessary evolution, no such thing as justice. What is called injustice is as much a necessary evolution as what is called justice. If there is not more justice in the world, nature ought to evolve more; and if there is too much injustice in the world, nature ought to evolve less. Evolution has its own way in all. If you lower the standard of right, you need not so much fear the consequences of wrong. But for evolutionary conduct there should be no evolutionary penalties. Nature should not punish us for doing what she makes us do. Indeed, the theory of materialistic evolution denies all moral authority and responsibility, all moral action and all moral consequences. The intellectual order in nature is no better in the outcome, and has no more accountability, than the unintelligent—in fact, intelligence is only a mode of matter, and is under the laws of matter.

The system of scientific morals acknowledges only a blind, impersonal, unintelligent Power, neither holy nor unholy, within to enforce it; while religious morals acknowledge responsibility to an all-knowing, all-loving, all-powerful God above. This Power, admitted by science, is not a moral power, nor can the necessary relations between causes and effects be called moral relation. Moral relations are personal relations, not impersonal. If consequences of conduct are necessary—irresistably necessary beyond help or remedy, we ask again, how far in making all things necessary are all things reduced to the system of material effects? So, in saying, that throughout the whole of human conduct necessary relations of causes and effects prevail, we must also say, to be explicit, that in Natural Morality there is no more authority than there is in natural electricity, or natural gravitation, or in natural heat, or in any other physical effect. If necessary effects warn us not to act so as to make them necessary, we must be free not so to act; but does necessary evolution leave us thus free? If moral conduct is a physical phenomenon, it is under all the necessity of other physical phenomena, and so far as it is physical it is not moral.

Mr. Spencer says, "Ethics is a science dealing with the conduct of associated human beings." (D. E., § 22.) "Ethics has a physical aspect; since it treats of human activities which, in common with all expenditures of energy, conform to the law of the persistence of energy: moral principles must conform to physical necessities." (*Ib.*) "The conduct Ethics deals with, is to be fully understood only as an aspect of evolving life." (*Ib.*) Moral conduct, in evolution, thus becomes simply an activity of the material world, without moral authority and without moral responsibility.

"Early ideas concerning thought and feeling ignored everything like cause, save in recognizing those effects of habit which were forced on men's attention and expressed in proverbs ; but there are growing up interpretations of thought and feeling as correlates of the actions and re-actions of a nervous structure, that is influenced by outer changes, and works in the body adapted changes ; the implication being that Psychology becomes a science, as fast as these relations of phenomena are explained as consequences of ultimate principles." (D. E., § 22.) What are these ULTIMATE PRINCIPLES ? These Ultimate Principles land us in the very centre of the Underived—the Absolute—the Infinite. These Ultimate Principles, personified are the God of religion.

If there is any difference in the distinction thus made between "moral principles," and "physical necessities," then their origin is one and the same, or different and opposite. If different and opposite, what authority requires moral principles to conform to physical necessities ? but, if their origin is one and the same, do moral principles evolve physical necessities, or do physical necessities evolve moral principles ? But neither can evolve the other.

"Moral principles" and "physical necessities" belong to contradictory systems of truth. Principles are the beginnings of things, and synonymous with cause. A moral principle cannot be a physical necessity, nor can a physical necessity be a moral principle. The terms represent ideas radically different. If a moral principle be a necessary evolution of matter, then, though it may be called a necessary evolution, it cannot be called a conformity. The potter may form the clay, but the clay does not conform to the potter.

II.

If we are to speak of morality as Natural Morality, then, what is its authority ? Can Nature authorize itself ? This depends upon the question: Is there Supernature ? If there is supernature, then supernature is the authority for Natural Morality, or it has none. But as morality without authority is no morality, so, as Nature is not authority to nature, for natural morality to be morality, it must have supernatural authority; and as the authority of nature is supernature, so, for Natural Morality there must be Supernature.

If conduct called natural morality be not only an evolution, but a necessary evolution, it is evident, as there can be no authority over necessity, that

1. All necessary evolution is without (*a*) moral authority. What is authority? If we understand Mr. Spencer, he ignores all authority. He says (D. E., § 22), "The connexion between cause and effect is one that cannot be established, or altered, by any authority external to the phenomena themselves." But can there be any authority internal to the phenomena?

Authority is underived personal power, prescribing personal conduct. It is not between personal equals, or between impersonal things. It is exclusively personal. There is no authority in impersonal power over persons; or in personal power over impersonal things, or in the power of impersonal things over impersonal things. Authority is prescribed Will. Unprescribed Will is power, but not authority. Though the power to originate is the power to control, yet, authority is original power over the conduct of free persons, as distinguished from the original power over the phenomena of necessary things. Underived personal Will is authority over the personal Will derived from the underived.

Agnosticism teaches a necessary, material system, and denies a free, moral system. Mr. Spencer says, "We have seen that during the progress of animate existence, the later-evolved, more compound and more representative feelings, serving to adjust the conduct to more distant and general needs, have all along had an authority as guides superior to that of the earlier and simpler feelings—excluding cases in which these last are intense. This superior authority, unrecognizable by lower types of creatures which cannot generalize, and little recognizable by primitive men, who have but feeble powers of generalization, has become distinctly recognized as civilization and accompanying mental development have gone on. Accumulated experiences have produced the consciousness that guidance by feelings which refer to remote and general results, is usually more conducive to welfare than guidance by feelings to be immediately gratified. For what is the common character of the feelings that prompt honesty, truthfulness, diligence, providence, etc., which men habitually find to be better prompters than the appetites and simple impulses? They are all complex, re-representative feelings, occupied with the future rather than the present. The idea of authoritativeness has therefore come to be connected with feelings having these traits: the implication being that the lower and simpler feelings are without authority. And this idea of authoritativeness is one element in the abstract consciousness of duty." (D. E., § 46.)

The power that produces a tree does not, as authority, command the tree to come or to live. In other words, neither production nor sustenance is authority, because production and sustenance, in materialism, are not prescribed. Superhuman power, as Creator, produces things ; and superhuman power, as Authority, commands or prescribes its personal creatures to produce actions of their own.

Authority is said to be power over conduct. But, is there any such power? If not, let us change all our moral ideas and words. If there is any control over conduct, let us know what it is. Evolution is ceaseless production, and nothing but production. It produces everything, but commands nothing, unless production is command. But, if there is anything that may be called Authority in the universe, let us define and obey it ; if it is supernatural, let us know and reverence it. By admitting authority, we admit responsibility, and by denying either we deny both; and so, all morality, whether natural or supernatural. Unphilosophical conclusions, negativing authority and responsibility, leave conduct without a guide. What our souls are to our bodies, supernature is to nature; therefore, to take supernature out of nature, is to leave society and individual virtue to ask guidance of a silent, awful, deaf corpse. We contend for nature—for supernature in nature—and for personality to that supernature.

As authority is personal, if impersonal nature has a morality, it has a morality without authority. But basing morality on authority, as there can be but one undisputed authority in the universe, so there can be but one undisputed morality in the universe. As said before, natural consequences of conduct are the exponents of supernatural authority. Natural consequences are from supernatural power. Morality is, therefore, natural morality on the side of natural consequences, and supernatural morality on the side of supernatural authority. Authority precedes and consequences follow conduct.

There is nothing in an impersonal effect that we are accustomed to think of as personal authority. Authority speaks before conduct; effect speaks after. Authority prescribes what ought to be done; effect subscribes what has been done. Authority in sovereign sympathy commands; effect in silent apathy records. Authority gives a law; effect is the occasion of an inference. Authority says, if you are wise you will not strike the rock with your hand; effect, holding up its bleeding hand, says, I was not wise, and I struck.

As in materialistic necessity there is no such thing as moral conduct, the words "morality," "authority," "responsibility," in the future of evolutionary terminology would cease to be used; for Will, as we know it, being no longer admitted in human psychology, there would be no ideas for these words to represent.

But Natural Morality, if any as it includes necessity, excludes from conduct not only all authority over freedom, but all moral freedom itself. All necessary morality is without authority. Necessity excludes authority. That which must be, needs no authority. An unintelligent, impersonal constitution of things can have no authority over an intelligent, personal being.

This whole discussion brings us into the presence of the old question of liberty under supernatural authority or no liberty under natural necessity.

Morality is human conduct free under authority; if it is inevitable under necessity it is not morality. Authority requires, but does not evolve; Necessity evolves but does not require. Human conduct required or prescribed by authority, is morality; if conduct is not required or prescribed by authority, whatever else it may be, it is not morality. If conduct, evolved under Necessity, be morality, then what is conduct required under authority? Is that morality too? or is there no authority? If conduct free under authority and evolved under necessity, both be morality, there must be some harmonizing power *ab extra*, to make them consistent; making that necessary which it authoritatively commands, and authoritatively commanding what it makes necessary.

There is no authority, as such, in consequences. Consequences may expose to us the absence of wisdom in our past acts, and warn us not to repeat (as if the acts could be repeated) the acts which caused the consequences; but they prescribe or predict nothing as to other and different acts we may commit in the future. But if conduct be an evolution, it can never be repeated, for evolution never repeats anything. From sameness it ever works towards difference—from the homogeneous to the heterogeneous. As evolution never repeats the past, it can never warn of the future. It cannot tell us the new things it is ever to do. Its necessity to differentiate its work—its committal to perpetual heterogeneity, makes it valueless to experience. It is useless for the experience of consequences to warn us not to repeat acts that we call bad; because evolution assures us that in its necessity to go on, neither conduct nor consequences can be repeated. The office of evolution is to manifest results, not to prescribe moral law.

Are we to understand, when morality, claiming supernatural authority, is contrasted with morality grounded in nature, that morality under authority is supernatural, and morality not under authority, is natural? Again we ask, what is authority? Authority is the supremacy of personal Will over personal Will and is more than the mere presence of Power, and more than the manifestation of Power through impersonal phenomena; though it may certify itself through these manifestations. Authority is the sovereignty of personal Power, commanding obedience of all persons subject to its control.

According to Mr. Spencer, the only authority is the lesson of facts, or the inferences of experience. But this is not authority as we have been accustomed to think it. Authority is a personal government. We attribute an impersonal authority to the impersonal sovereignty of the state; but the authority is only so in a figurative sense, as it represents the aggregate of personality in the state.

But it may be asked: What is the need of supernatural authority, or authority of any kind? Why may not conduct be reasonable conduct, under neither authority nor responsibility? If the individual reason is competent to decide upon a moral authority, why is it not competent to decide upon moral questions? Why is not the reasonableness of an act a sufficient authority for the act? To what else, they say, but to reason can man turn in the moral emergencies of conduct—there are no Urim and Thummim to consult? If, according to St. Paul, "the Gentiles which have not the law, do by Nature the things contained in the law," why may not all, like these Gentiles, take the nature of things, discoverable by reason, as all needful authority? Authority, it is said, cannot make that right which, in its nature, is wrong; nor that wrong which, in its nature, is right.

It may be asked, why not reject the idea of authority altogether; or, if there must be authority, why is not rightness its own authority? But, even if a right act needs no other authority than its own rightness, whence that rightness?

Personal rights are inherent in personal relations; but whence the relations? They are neither eternal nor self-existent, nor are the inherent rights essential to them either eternal or self-existent. Eternal justice or right is a high-sounding phrase; but, in the nature of things, there can be no justice without relations, and relations are not eternal. If relations are derived, so are the inherent rights essential to them. Relations and rights come together one with the other.

Rights are either absolute or relative. If absolute, they are commanded because they are right; if relative, then they are right because they are commanded. Only underived existence is absolute; only derived existence is relative. The absolute has no rights, for no one can possibly do it any wrong. Rights come and end with relations.

Personal rights in what is called the nature of things are relative, not absolute, because no solitary person has rights; and they are personal, because such things as trees and stones have no rights either as to each other, or as to persons. If brutes have rights, man does not respect them, even their right to live. Personal rights which are essential to personal relations, are the very purpose—aim—ethics—necessity—congruity—exponent of the relations, and exhibit their own laws of essential harmonies. One cannot be related to himself, but, the coming of two or more people together, constitutes the relation of many in one. New mutual rights inherent in and essential to the new relations co-exist. Moral conduct, therefore, is obedience to authority—the authority of the underived over the derived. Thus, whether authority be that of impersonal nature, as some insist, or that of a personal God, that is right which this authority commands, and that is wrong which it forbids.

We never know where a blind man may step—he does not know himself. As like understands like, mind can communicate with mind. It is only the mind in matter that our minds can understand. Human intelligence can somewhat understand the plans of superhuman intelligence. Human conduct can intelligently accommodate itself to Nature only as it understands what nature means. But for Nature to have any meaning, it must be intelligent, and this, materialistic logic cannot admit.

If an impersonal constitution of things, or what is called Nature, rewards or punishes conduct, it does so intelligently or unintelligently. If Nature be intelligent, it is personal (if external nature is like the nature within us), and if personal, it is God. If external nature is unintelligent, then there is no intelligent reward or punishment for human conduct. An unintelligent sequence to our conduct is material, not moral. When we do what we call a good act, does Nature blindly grasp the act, and do something, not knowing what it does? Does Nature reward our actions, not knowing that it rewards? Does it punish not knowing that it punishes? By theory, impersonal Nature has no intelligence, and does not know what it is doing, whether it is helping or hurting personal nature. Admitting that Nature knows what it is about, and that it always works the same knowing way, human action might intelligently work to it. But what is the use of human intelligence if there be no superhuman intelligence? How can intelligent, personal Nature understand unintelligent, impersonal Nature? If Nature knows nothing, it cannot know when we do a good action, nor when we do a bad action. If Nature knows nothing, it strikes blindly, both friends and foes. As you find intelligence in superhuman Nature, you find God—the human personality finds and understands something of the superhuman personality. Personality can communicate with personality—this must be admitted, or nothing is admitted; for rational personality cannot communicate with irrational impersonality. We cannot make our minds known to a tree or to a stone, or to "the constitution of things." These have no ear to hear, nor mind to know. The "necessary consequences" of conduct are the only announcements made by "the constitution of things," and this is after, and not before conduct. But as no experiences are ever alike, the constitution of things stands ready to strike after, but never to warn conduct before, of its consequences.

Authority is a personal attribute. I repeat, there is power but no authority in gravitation, chemic affinity, electricity—in a word, in any impersonal force or principle. Authority is the command of a superior to an inferior. Supernature is the authority of nature, if nature has any authority; for nature cannot be over itself and so an authority unto itself. Impersonal nature commands nothing. Impersonal power is to material nature what personal authority is to personal conduct. Necessity is not authority. Advice is not authority. The origin of authority is will; it is always personal; it may be uniform, but it is not necessary.

So far as evolution takes the supernatural out of nature, conduct in what is called Natural Morality, is under no authority; nor, indeed, in the theory of evolution, is it possible for it to be. The idea of authority disappears altogether from evolutionary speculations. Necessity takes the place of commands; impersonal law ignores a personal lawgiver; unplanned events come along unbidden; a world goes on that never started; man is a machine evolved from that which was not a machine; the universe comes from nothing and from nobody, but itself; and, in the instability of the homogeneous, itself that is, is not the itself that was, and is to be. Succession is not identity.

It is said (Intro. D. E., xxiii.) that "When a man eats because he is hungry, he feels the power, but not the *authority* of appetite. When, on the other hand, he refrains from vicious indulgence because its later effects will be bad, or when he takes a walk before breakfast because he believes it will conduce to his health, though its good effect will not be immediately apparent, he recognizes and feels the *authority* of sanitary rules. In these cases the degree of dissociation between the rule or principle recognized by the mind and the actual facts on which it rests is but slight; yet the rise of *authority* is plainly visible. A rule of conduct once established, the mind, working quite independently of the will of the individual, resents any attempt to impugn its authority. Naturally enough, seeing that, to impugn its authority means an unsettlement of all that the rule had settled."

In this reasoning, the more that "the rule or principle is dissociated from the actual facts on which it is said to rest," the more authority arises—full dissociation is full authority. And *e converso*, there is no authority whatever in the complete identity of the rule or principle with the actual facts with which it is associated. In other words, there is no authority where there is identity of producer and produced—of *Natura Naturans* and *Natura Naturata*, and there is authority just as they are distinct. Authority is defined by describing this distinction. In evolution and evolutionary morality, force and its manifestations are one, under two modes.

All this is only the so-called authority of the wisdom of experience; but experience is not authority. Experience is a historian, not a prophet; it is information, not judgment; it may persuade, not command; at most it is a friend, but never a sovereign. Experience is always after conduct, never before it; it is always different and never the same; it is always individual and never common; it is always personal and never impersonal; it is always in mind and never in matter; it records the actions of the Will, and a multiplicity of sequences; its knowledge of the past is but a hope or a despair of the future. Experience is but the human knowledge of superhuman authority.

A condition is not authority. We repeat, necessity is not authority; nor is uniformity necessity. The inevitable is not authority. Evidence is not authority. The writer of the Introduction finds *authority* for sanitary rules in the fact that a walk before breakfast conduces to health. This is but the persuasion of experience, but it is not authority. Authority commands, not persuades. It gives a rule, not a reason. Authority may give a rule through reason, but not give reason as the rule.

A child in some acts, obeys as required by parental authority; in other things, it pleases itself; yet in others it is passive under circumstances. Passive experience is involuntary, and therefore necessary; obedience to authority is voluntary, and therefore moral; all other conduct is wilfully indifferent to authority, and selfish, and may or may not be innocent; but *morality is* obedient *conduct required by authority.* Without authority, you may have selfishness, passive endurance, but not morality. In this way we see that to have morality, we must have conduct under authority.

The issue presented is between a religious morality under supernatural *authority* and a scientific morality under *no authority.* But the issue is unreal. Science only investigates where religion worships. What is objective in nature is subjective in supernature. Natural facts are manifestations of supernatural power and authority. Science studies the objective, and ignores the subjective; while religion uses the objective to prove the subjective. The morality is one. Science seeks to know it through nature only, without any authority; while Religion proves its authority through both Nature and Supernature.

But the real *authority* of nature, is the Supernatural Will behind nature. The fire would be powerless to burn the child, unless power was given to it; but the fire was not authority. The originator of the fire is the authority of the fire. Nature proclaims only the Supernatural Will. What is called Natural Morality is but the objective manifestation of, and has its authority in, subjective Supernatural Morality. Authority is always above the plane of its action.

If morality is founded on nature, on what is nature founded? Mr. Spencer says (F. P., p 16), "Information, however extensive it may become, can never satisfy inquiry. Positive knowledge does not, and never can, fill the whole region of possible thought.

At the utmost reach of discovery there arises, and must ever arise, the question—What lies beyond? As it is impossible to think of a limit to space so as to exclude the idea of space lying outside that limit; so we cannot conceive of any explanation profound enough to exclude the question—What is the explanation of the explanation?"

If Supernature is denied, is Nature authority unto itself? If so, one part of nature would command another part; as would be the case if matter commanded conduct, and both matter and conduct were called Nature. But, after all, would not the part commanding be supernatural to the part commanded?

Is morality founded on nature, or on a supernatural authority which controls nature? Why seek the rules of conduct, at second hand, in the facts of nature, when we can find them at first hand, in the Will of a supernatural Factor illustrated in the facts of nature? To that Will the human thought is driven at last. The inquiry is irrepressible.

If morality has no supernatural authority, has it any natural foundation? or is its natural foundation a kind of natural authority? Or has morality no authority? It would seem that morality must be under authority, if anything must. But, if authority is no longer to have place among moral ideas, what is to be substituted for it? Necessity? From our own human will, we infer a superhuman Will, uniform but never necessarily determined, in the constitution of things.

All necessary evolution of conduct thus seen to be necessary, is also without,

(*b*) Moral responsibility for conduct, for causes, or for effects. Necessary conduct in moral evolution being a necessity of evolution, of course, as a necessity, must exclude moral responsibility. If "moral principles *must* conform to physical necessities," the real and ultimate sphere of human conduct is physical and not moral. But responsibility belongs to the moral and not the physical.

What is responsibility? It is the answer made by derived will to the prescribed requirements of underived Will. It is the reciprocal of authority. As the authority so is the responsibility. As authority is the power of personal will over personal will; so responsibility is the return which personal will makes to personal will. As action and reaction are equal and opposite, so are authority and its corresponding responsibility—responsibility is the echo of authority.

Moral responsibility begins and ends with the freedom of the Will. Deny that, and you deny the moral system of the universe. One atom is not responsible to another atom; gravitation is not responsible to electricity; nor is the outcome of physical necessities responsible to moral principles—in fact, in materialism, there are no moral principles. So far as moral principles must conform to physical necessities, they are not responsible to physical necessities for not conforming. This reverses all former moral ideas. The responsibility of mind to matter—of the moral to the physical—is inverting the pyramid. We are *responsible* to authority. We must *yield* to necessity. If we retain the use and the meaning of the words authority and responsibility, we must continue to admit supernatural personality. To give up supernatural personality, we have left, only natural impersonality; dethroning moral authority and abrogating moral responsibility.

Nature is under control from without, or from within. If it is under control from without, it is, of course, under supernatural authority. If supernature be denied and nature is under control from within, and nature is all, then all is natural; and conduct commonly called good and conduct commonly called bad, are, to nature, equally natural, and are, therefore, to nature, equally right and equally wrong. Nature cannot hold man responsible for what nature makes him do.

We have said that all conduct is free or all conduct is necessary; so far as conduct is necessary, it is a blind, inexorable energy of matter, as much as is that of gravitation, electricity or chemic affinity; and, as an energy of matter, it admits of power but no authority, unless it be a supernatural authority. So far as conduct is free, it is moral, under supernatural authority, and cannot be necessary.

Can morality be called morality in which supernatural authority is denied, and in which even natural authority, or authority of any kind, is not admitted? Is the idea of moral authority no longer to be involved in the idea of morality, and with the loss of the idea of authority, are we also to lose the idea of moral responsibility? If the ideas of authority and responsibility are both to be dissevered from our ideas of morality, what is left, but the inexorable, blind, impersonal, unintelligent power of necessity?

Is the universe under Necessity or under Authority? Blind, unintelligent, impersonal Necessity accounts for nothing, not even for itself; intelligent, omnipresent, personal Authority accounts for everything, except Itself. Necessity is a matter-system, and materializes all heretofore mentalized; Authority is a mind-system, and mentalizes all heretofore materialized. Morality is human conduct with a moral purpose. Under which system is morality possible? If under the matter-system, it is called Natural Morality; if under the mind-system, it is called Supernatural Morality.

Necessity is impersonal, and executes without commanding, as in gravitation; authority is personal, and commands without executing, as in the command to do unto others, as we would have others do unto us. All physical phenomena, in physical relations, are, primarily, under physical necessity; all moral conduct, in moral relations, is, primarily, under moral authority. That is, where the power and the act are identical, there is no authority and no responsibility; and just as they are dissociated, there is authority and no necessity.

But necessary conduct is not moral conduct. Compulsion creates no duties. If morality is founded in nature, all conduct must be natural as well as the consequences of conduct. But, if Nature is always right, and conduct be all natural, so all conduct would be right, and there should be no detrimental consequences.

So far as the basis of things is material, it is necessary—in a word, so far as moral principles conform to physical necessities, they cease to be moral principles, and necessary conduct is not responsible. We are not to be blamed for doing, what we were compelled to do. There is no guilt in necessity. Nature cannot condemn us for being natural. If we are the higher parts of nature, we are not responsible to the lower parts. Equals are never responsible to equals. We must exonerate Nature from all responsibility, unless we enthrone a Supernature to whom it could be responsible.

If man is not responsible for necessary, evolutionary conduct, no more is he responsible for necessary causes in moral evolution, which necessitated the conduct, as a necessary effect. If the conduct of man is an effect of some necessary cause acting upon him, that necessary cause was a necessary effect of some necessary cause before it, and so on back *ad infinitum*.

If there is no moral responsibility for necessary evolutionary conduct, nor for necessary evolutionary causes, there is no responsibility for necessary effects in moral evolution. What are effects? Mr. Spencer says, " Universally the effect is more complex than the cause." (F. P., § 156.) How can there be any more responsibility for the effect of conduct, when, as we have just learned from Mr. Spencer, " the composition of causes is so intricate, and from moment to moment so variable, that effects are not calculable?" (I Psy., § 219.)

How, then, with complex and variable causes, and with effects so complex and variable that they are not calculable, can we so determine the "necessary relations between causes and effects" as to obtain a rule of moral conduct, and fix moral responsibility?

We cannot understand cause, but can we any more understand effect? Which is cause—the seed, the soil, or the sun—to the wheat? Which is the effect of the cause—the wheat, the nourishment to the eater, the deeds he does, or the thoughts he thinks?

Effect follows, but does not come out of, what we call cause. Night is not the effect of the preceding day. In the correlation of force there is all of cause and effect that there is anywhere; but in the sympathy of direct correlation, though the presence of one thing is the presence of some other thing, one does not create the other into its presence. Good labor is the occasion of good wages; the presence of religion is the occasion of morality, and so on. In the antipathy of inverse correlation, the absence of one thing is the occasion not the cause for the presence of some other thing; as, when religion is absent, immorality is present. Cause is power, and power acts where it is, but never where it is not. Cause is in the present, not in the past or the future. The absence of heat is the occasion of the presence of electricity. The going of one is the coming of the other. The movement is one of displacement and substitution.

No satisfactory induction of the rules of morality can be made from any necessary relation of cause and effect; because all causes are indefinite and make more indefinite effects; and because conduct is an act of a derived human Will, and as conduct, is not a cause; and what follows is the discipline imposed by the underived, superhuman Will, and as discipline, is not an effect. These two orders of will, the human in conduct and the superhuman in discipline, we must admit, unless we assume that the human will is supreme in the universe and in both conduct and consequences. When Nature manifests no other Will, the superhuman Will is fixed in the constituted order of cause and effect.

2. Having shown, as we think, that all evolution is necessary, and that all necessary evolution is without moral authority over either the conscience of conduct, the instability of conduct, or the heterogeneity of conduct; and that it is also without moral responsibility for evolutionary conduct, evolutionary causes, or evolutionary effects, it remains only to state, under the present proposition, that

3. All conduct called Natural Morality is a necessary evolution; and, as such, is without either moral authority or moral responsibility. Indeed, this seems to be the opinion of Mr. Spencer himself, when he says:

"Thinking of the extrinsic effects of a forbidden act, excites a dread which continues present while the intrinsic effects of the act are thought of; and being thus linked with these intrinsic effects causes a vague sense of moral compulsion. Emerging as the moral motive does but slowly from amidst the political, religious, and social motives, it long participates in that consciousness of subordination to some external agency which is joined with them; and only as it becomes distinct and predominant does it lose this associated consciousness—only then does the feeling of obligation fade.

"This remark implies the tacit conclusion, which will be to most very startling, that the sense of duty or moral obligation is transitory, and will diminish as fast as moralization increases. Startling though it is, this conclusion may be satisfactorily defended. Even now progress towards the implied ultimate state is traceable. The observation is not infrequent that persistence in performing a duty ends in making it a pleasure; and this amounts to the admission that while at first the motive contains an element of coercion, at last this element of coercion dies out, and the act is performed without any consciousness of being obliged to perform it. The contrast between the youth on whom diligence is enjoined, and the man of business so absorbed in affairs that he cannot be induced to relax, shows us how the doing of work, originally under the consciousness that it *ought* to be done, may eventually cease to have any such accompanying consciousness. Sometimes, indeed, the relation comes to be reversed; and the man of business persists in work from pure love of it when told that he ought not. Nor is it thus with self-regarding feelings only. That the maintaining and protecting of wife by husband often result solely from feelings directly gratified by these actions, without any thought of *must*; and that the fostering of children by parents is in many cases made an absorbing occupation without any coercive feeling of *ought;* are obvious truths which show us that even now, with some of the fundamental other-regarding duties, the sense of obligation has retreated into the background of the mind. And it is in some degree so with other-regarding duties of a higher kind. Conscientiousness has in many outgrown that stage in which the sense of a compelling power is joined with rectitude of action. The truly honest man, here and there to be found, is not only without thought of legal, religious, or social compulsion, when he discharges an equitable claim on him; but he is without thought of self-compulsion. He does the right thing with a simple feeling of satisfaction in doing it; and is, indeed, impatient if anything prevents him from having the satisfaction of doing it." (D. E., § 46.)

Mr. Spencer looks forward to the time in the future of the race when, by its accumulated experiences, man will, as naturally as the sun-flower turns to the sun, adjust his conduct to right ends. He will do this not under what we now call authority, or the command of any supernatural Will, but as a physical function. The words moral conduct, moral authority and moral responsibility will become obsolete, in the perfect adjustment of acts to ends.

III.

According to the theory of materialistic evolution all nature is evolved unprescribed, and is necessary; all natural morality is, of course, under nature; all conduct under nature is necessary; all necessary conduct is not free; all conduct that is not free, is not responsible; and all conduct that is not responsible, is not moral conduct.

But where is this necessity of natural evolution to begin, and where is it to end? Mr. Spencer speaks of "necessary consequences;" but how much necessity is in the chain of antecedent causes? If cause is an evolution, it is as necessary as all else in evolution, for all evolution is necessary; but, if cause is not necessary as an evolution, then evolution does not account for all in the universe. The whole chain of causes and effects preceding conduct as an evolution, is under necessity, or nothing is under necessity and nothing is an evolution. How about free Will? An evolved Will is a necessary Will, or rather no Will. From views of evolutionary nature—necessary nature—it is clear that, as there is no Will in evolution; things must be as they are, and because Natural Morality is an evolution, it is, therefore, necessary. If so, whatever else evolved conduct may be called, it is a misnomer to call it Morality. Morality is free moral conduct. If not free, it is as automatic as the attraction of the sun; but it is not moral.

A PRESCRIBED OR SUPERNATURAL MORALITY IS FREE, AND THEREFORE POSSIBLE.

IV.

At the outset, Morality was said to be either evolved or prescribed, or evolved as prescribed. If morality is a natural evolution, and natural evolution is shown to be a necessary evolution, then natural morality is a necessary morality, or rather, no morality. But if there is a morality at all, it must be free and not necessary conduct; if it be free and not necessary conduct, it can not be a necessary evolution; if it be not a necessary evolution, it cannot be a natural evolution, for nature is necessary; if it be not a natural evolution, it must be a supernatural evolution, if it be an evolution at all.

1. All prescribed morality is free, not necessary; and Morality is prescribed when it is neither accidental nor necessary. It is prescribed if, before acting, we are told how we ought to act. This we may be told directly, as an inspired written revelation; or we may be told this indirectly, by reflecting upon the consequences of past acts. But whether we be told directly or indirectly, how we ought to act, before acting, we have our action none the less prescribed. The rule of action must be prescribed to be the law of action.

Let us look into the laws of matter, the knowledge of the mind, the constitution of nature, and the civil and social relations of mankind, and see if facts warrant the induction, that, as there are no facts without a factor, there is a Factor in nature which nature is not. The belief in the supernatural has universally affected human conduct. Was the belief a delusion? The world has wrought under the theistic conviction, as if it were true, and under this conviction, whether well founded or not, has been all true progress.

What is called Natural Morality being necessary, is not prescribed; for, in a system of necessary nature, there is no one free to prescribe. Morality which is prescribed is free, not necessary; for nature cannot prescribe or require free conduct of one of her own children not free to obey.

We repeat, all prescribed Morality is free, as opposed to necessary morality; because only a free power could prescribe, and only a free agent could obey. An unintelligent and impersonal nature cannot prescribe to an unintelligent and impersonal stone, that it must gravitate; when, by a necessary nature, it cannot help gravitating. For morality to be morality, there must be moral freedom, and moral freedom implies either that each person is a law unto himself, or that laws are prescribed to him, which he is free to obey or to disobey. If there is any morality which is not natural morality and therefore not necessary, it must be supernatural morality, which is therefore free.

It may be said that the conduct called natural morality is prescribed to the future by the consequences of past conduct—that the present sufferings of a burnt child prescribe to him a command to keep out of the fire in the future—in a word, that all painful experiences may be said to require men to do or not to do certain things. Persons may prescribe conduct to persons; but impersonal nature can prescribe nothing. Mind prescribes to mind, not matter to mind or mind to matter. Morality is obedience of mind to mind, not the conformity of mind to matter. Obedience is intelligent conformity of conduct to authoritative command. Blind, unconscious action is not moral obedience. If moral conduct is the moral adjustment of moral acts to moral ends, who is the Adjuster? Adjustment implies anticipation; anticipation implies intelligence; and, if like is from like, intelligence in us implies its derivation from a higher intelligence. To anticipate the end from the beginning is to know the end from the beginning. Only omniscient Supernature can know all nescient nature.

There can be no morality in necessary nature; therefore, if moral conduct is either prescribed or supernatural, it must be both. So far as conduct is moral, it is prescribed; and so far as prescribed, it must be supernatural; as natural evolution prescribes nothing. Evolution anticipates its work, or it does not. If it does not anticipate its work, then its work is only blind phenomena, implying neither obedient morality nor disobedient immorality. If it does anticipate its work, then evolution is supernatural and is only the method of the Anticipating Power; and what that Power prescribes is right, and what it proscribes is wrong.

To agnostic Evolutionists, Nature is all, and all is necessary; and, therefore, according to Prof. Hæckel and others, all is unplanned and unprescribed. Necessary, and, therefore, not moral conduct, being unprescribed, of course, free, and therefore, moral conduct, is prescribed. As said before, all morality is evolved or prescribed. All evolved morality ignores all Will, and is necessary. All prescribed morality is free, and implies Will. Free conduct is free under law, not above it; and all law is prescribed. But what is Law? Beginning the study of nature with ourselves, we find that Law is Will; Will is one, as the sun; law many, as the rays: as every ray is all sun, so every law is all Will. Will is eternal Power outside of nature taking form as nature—nature is visible Will. Those who deny that law is will, claim that law is a fact—not a cause—that it is a fact that like conditions produce like results. This fact, they say, is law. It has been said that the idea of law is pushing Will from the throne of the universe.

But is the government of law more comprehensible than the government of Will? The power that is uniform as law can be uniform as Will. Besides, uniformity is only an averaging of diversities. Uniformity is as impossible as stability; and, in the eternal instability of the homogeneous, there can be, according to evolution, no stability, and therefore no uniformity. Both uniformity and heterogeneity cannot be—if one is the other is not. But as to Law and Will, distinction of names is not a difference of power. Will is power. Supernatural Will is before, and in, all natural entities. Without will there can be no law. Law implies the uniformity of Will.

Nor can there be law without a lawgiver. With no supernatural intelligence behind unintelligent nature, there is no certain basis for science; for there can be no knowledge of future, of unintended movements. All uniformity of law implies plan. Persistent repetition implies purpose and intention. Unless nature is intelligent in the uniformity of to-day, we have no intelligent certainty of what is claimed to be an unintelligent uniformity to-morrow. Is the uniformity of nature intentional or unintentional? If intentional it is a personal intention and therefore free; if it is unintentional, the uniformity is impersonal, and is therefore either necessary or accidental. But as uniformity to be uniformity can be neither accidental nor necessary, it must be intentional and therefore personal. Impersonal law is only the uniformity of diversities in personal Will.

As relations and their incident rights are not eternal, but derived, they must be derived from the Underived, which is eternal; and that Underived is authority to all temporal things derived from it. If the Underived Power is thus older than the derived right commanded, then right is right because it is commanded, and is not commanded because it is right. If right is commanded because it is right, then right is underived, and existed as right before it was commanded; but right is not older than the relation to which it pertains, and in which relation it was derived and originated. If rights are derived, they are derived directly by command or indirectly in relations. A derived relation expresses the Will of underived Power. Without that Will the relations cannot be; and with that Will all relations begin, with all incident and inherent rights. But the command or constitution of the relation is conceived before the relation and its inherent rights exist. Without the command neither relation nor incident right exists.

2. All supernatural morality is prescribed, because natural morality is not prescribed but evolved; and evolved morality, being natural, is therefore necessary. If all that is necessary is all that is natural, then all that is free, is all that is supernatural. Morality being impossible as a natural necessity, we shall see that it is possible only under

(*a*) A Supernatural Power. The Power that made the human mind can prescribe to the human mind. Has it done it? Is there a supernatural Power, and has it prescribed any law to Mental Phenomena?

Mr. Spencer says (F. P., § 105), as we have seen, that "The progress of intelligence has throughout been dual. Though it has not seemed so to those who made it, every step in advance has been a step towards both the natural and the supernatural All accountable or natural facts are proved to be, in their ultimate genesis, unaccountable and supernatural." If the ultimate genesis of all accountable and natural facts is proved to be unaccountable and supernatural, why is not the ultimate genesis of the authority for moral conduct supernatural? Does supernature restrict its moral manifestations to the natural constitution of things? Supernature may talk by works as well as by words. A tree speaks for Supernature as well as the words of a Prophet.

The supernatural is admitted by Mr. Spencer as "absolutely certain." He says (*Pop. Sci. Monthly*, Jan., 1884), as we have seen and now repeat, "Amid the mysteries which become more mysterious the more they are thought about, there will remain the one absolute certainty that he (man) is ever in presence of an Infinite and Eternal Energy from which all things proceed." Is this energy merely natural, and do "all things proceed" by evolution impersonal or personal, or by creation of a personal power? These questions are answered by Mr. Spencer, when he says, "All accountable and natural facts are *proved* to be, in their ultimate *genesis*, unaccountable and *supernatural*." But, if "all things proceed" by an "ultimate *genesis*," what becomes of a continuous *evolution?* or is evolution, in its beginning, a "genesis"? The teaching of religion is, that "all things" are generated or created, and then proceed by the power genetically derived.

We are compelled to admit a basis of things, and that basis, according to Mr. Spencer, is supernatural; so, to exclude supernature from nature, the basis of nature must be annihilated, and so nature itself. Nature is the monogram of Supernature. Where anything is found, we find something supernatural, or the bodying forth of the supernatural. Religion simply adores as a Personal Presence, whatever is admitted to be at the background of things, whether called cause—law—force—or Being.

According to Mr. Spencer, "the natural and the supernatural" are "dual," and differ not in degree but in kind; therefore, if there be in nature that necessity which is taught by both Mr. Spencer and Prof. Hæckel, then *all* necessity must be in nature, and none whatever in supernature; for that which nature is, supernature is not. If nature is under necessity and supernature is not, then supernature is the only Power free to prescribe morality.

The thoughts of men move from plurality to unity. The early thoughts of mankind, unable to grasp the wider relation of things, rested in plurality. To them there were many gods. As the mind grew older, and wider relations were seen, the human mind generalized its way from plurality to unity, and saw that there was but one God. But this monotheistic unity was no less incomprehensible than the polytheistic plurality it removed.

Is there only nature as some say, or is there nature and also supernature, as Mr. Spencer says? Some have said that beyond nature man cannot go, even in thought. Beyond nature man need not go, if nature includes the intelligent as well as the unintelligent; the personal as well as the impersonal. Does nature include all conduct—all emotions? Does nature include slavery and polygamy?

Materialists say that "above nature man cannot rise—below nature he cannot fall." But that depends, as said before, on what nature includes and on what it excludes. If the effect includes the cause; if a fact includes its Factor; if the body includes a soul; if a picture include the Painter, his materials and design—in brief, if nature include all that the word supernature is used to express—if omnipresent nature include an omnipresent Person—God and his works—all right. Supernature is all that nature is not, or for which nature cannot account. *Supernature is God existing; nature is God manifested.* Supernature is the invisible side of visible nature. Supernature is the infinite essence of infinite form. Supernature is the unmanifested side of nature; nature is the manifested side of supernature. Supernature is the mind and nature is the instrumental brain; or supernature is the soul and nature is the body of the universe, and the universe is the visible thought of God—the shadow of the supernatural and the signature of the Infinite; but one is not the other.

The facts of nature prove that their Factor is supernatural. There is a tendency of late to deny, with more than former directness and emphasis, the supernaturalness of nature. But the conclusion of Mr. Spencer's wide and profound generalizations is, as said before, that "All accountable and natural facts are proved to be in their ultimate genesis, unaccountable and supernatural."

The two conclusions of Mr. Spencer are: first, that nature and supernature are dual and not the same; and, second, that the ultimate genesis of nature is in supernature—in other words, supernature begins all, and manifests itself in a method of natural facts. No greater inequality could be admitted, than that admitted but not defined, by Mr. Spencer. The difference, as just said, is in kind, not degree. One is what the other appoints, but cannot be what the other is. Supernature implies all possible inequality over nature in duration, essence, power and place. If supernature is eternal, nature must be temporal; if supernature is Being, nature must be manifestation; if supernature is omnipresent, nature must be local; if supernature is omniscient, nature must be nescient; if supernature is conscious, nature must be unconscious; Man is supernatural so far as he is supernaturally conscious, as were the Prophets and the Apostles; if supernature is power, nature must be only method.

Material science, as science, could not possibly admit more to religion, than has been admitted by Mr. Spencer. Having traced, though to a limited extent, the methods of supernatural power, to the outermost limits of its manifestation called nature, science must leave religion to follow on with its worship of all that is beyond. Nature is but the method of supernature, and this method only is subject to scientific study. Religion is for the supernatural power behind the method. Science may study what supernature *does;* religion bows before what supernature *is*. Here, then, we have the two sides of the universe, nature and supernature ; and the two studies, science and religion. Science ought not to question the beliefs of religion in that where it has no knowledge, and religion ought to rejoice for all knowledge of nature furnished by science, enlarging its conceptions of supernature.

So far as the modern theory of evolution is proved, it proves all that need be proved, as to the existence and attributes of the supernatural—of God. According to its logic of necessary progress, if God did not make nature, nature has made God. This is proved by the supernatural evolution of nature, or by the natural evolution of supernature.

Did supernature evolve nature, or nature, supernature? In the supernatural evolution of nature, the less is from the greater, or the part from the whole. In the natural evolution of supernature, the greater is from the less, or the whole from a part. Evolution is a method of unbroken, progressive creation. Direct or indirect creation is every moment, everywhere, in everything. Creation begins and continues the universe. Evolution is an intelligent method of carrying on what intelligent power originally created. Our reasoning, whether from supernature, to nature, or from nature to supernature, is both *a priori* and *a posteriori*. Supernature as an origin, leads us, *a priori*, to nature as a product ; and nature as a product leads us back, *a posteriori*, to supernature as an origin. So, nature as a cause, leads us *a priori* to supernature as an effect ; and supernature as an effect, leads us back *a posteriori* to nature as a cause. In either look, the Present is a historian of the Past, and a Prophet of the Future. If we cannot see that supernature has minimized itself to nature, we must admit that, in the necessity of eternal progress, nature must magnify itself to supernature.

"As to the students of science, occupied as such are with established truths," continues Herbert Spencer, "and accustomed to regard things not already known as things hereafter to be discovered, they are liable to forget that information, however extensive it may become, can never satisfy inquiry. Positive knowledge does not, and never can, fill the whole region of possible thought. At the utmost reach of discovery there arises, and must ever arise, the question—What lies beyond? As it is impossible to think of a limit to space so as to exclude the idea of space lying outside that limit; so we cannot conceive of any explanation profound enough to exclude the question—What is the explanation of the explanation? Regarding science as a gradually increasing sphere, we may say, that every addition to its surface does but bring it into wider contact with surrounding nescience." (F. P., § 4.)

If asked what is supernature, I reply by asking what is nature? In the dual existence of the universe, St. Paul says, "The invisible things of Him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and godhead; so that they are without excuse." (Rom. i., 20.) Thought becomes visible. Power takes method. The Infinite Factor appears in the finite Fact. Mind is supernatural to the matter it proves to exist. To deny the supernatural assumes that the natural is both admitted and comprehended. But, if only the comprehensible is the natural, then nothing is the natural. If all is supernatural which is incomprehensible, then all is supernatural; for while we can apprehend some of the naked facts of matter, we cannot comprehend why the facts are facts—we can comprehend nothing. The supernatural is the incomprehensible part of the comprehensible; it is that which we do not understand in that which we think we do understand; it is the unknown part of the known. Supernature is the invisible and intelligent Force behind the visible and unintelligent Form. As every concavity must enclose a convexity, and every convexity be enclosed in a concavity—as nothing can contain, surround, or embrace itself, so the finite must be within the circle of the infinite—nature must be contained in some supernatural container, call it supernature or what you may. As between nature and supernature, one is as incomprehensible as the other—in fact, they are different names for the same existence, considered from different sides of the universe. As from the South Pole to the North Pole, it is all the way north, or as from the North Pole to the South Pole it is all the way south; so from supernatural existence to natural phenomena, it is all natural, and from natural phenomena to supernatural existence it is all supernatural. Is the movement from supernature down to nature or from nature up to supernature? The supernatural is the subjective side of objective nature; the natural is the objective side of subjective supernature. As the invisible fountain prolongs itself into the river, so supernature flows out into visible existence, called nature. Supernature, *Natura Naturans*, is always producing and is never produced; Nature, *Natura Naturata*, is always produced, and is never producing. But we cannot tell where supernature ends and where nature begins; for, in a sense, each is the other. There is subjective identity and objective difference.

As said before, all is supernatural or above nature for which nature cannot account, such as its own origin and development. Strictly speaking, however, to separate nature from supernature, other than verbally, is to separate the inseparable Creator and creation. Nature and supernature have a common centre in a supreme, omnipresent, omnipotent Will, personal or impersonal. But, if Absolute Being be the basis of scientific truth, according to Mr. Spencer, then Absolute Being must be held to have conscious intelligence and will, if it manifests conscious intelligence and will. But as we know nothing of conscious intelligence and will apart from personality, we must regard the personality of God as a fixed, central thought of man.*

Supernature prescribes its own mind and Will to Nature. The larger imparts to the smaller. The whole includes the parts, as Supernature includes nature. Nature ever increases or decreases. To decrease persistently is to cease to be. To increase, is from within itself or without. To increase from within itself is to be superior to itself, and to produce something from nothing. All increase of nature from without, is from supernature. The natural is ever the unbroken evolution of the supernatural.

---

* To complete the argument in this paper, free use is made of the argument in the Author's book, now being re-constructed and extended, entitled " God Out and Man In." See pp. 37 *et passim*.

Modern Scientists in attributing uniformity called law to the operations of Power, deny its personal Will, and call it nature; and the ancients, in attributing a personal Will to Power, denied its uniformity, and called it supernature or God.

It is claimed that "all laws shall be conformed to natural morality;" but, if our argument has been valid, there is no natural morality. What is the Power behind Natural Morality, by which it is Natural Morality? The authority, if any, for all morality, is in some supernatural Will, whether supernaturally revealed in Scripture or naturally revealed to mere reason in the deductions of experience, or by the inductions as to what is right and wrong in "the necessary consequences" of actions. Morality is not merely natural morality because nature manifests the consequences of immorality. Natural testimony is not natural power. The witness is not the Court. In supernatural Power, natural morality and supernatural morality are the same. Nature is only a manifestation of supernature. Is there an evolving power *above* evolution manifested *through* evolution? That is the simple question. In other words, is natural morality prescribed by supernatural power?

Mr. Spencer says:

"It must be either admitted or denied that the acts called good and the acts called bad, naturally conduce, the one to human well-being and the other to human ill-being. Is it admitted?" ("Data of Ethics," § 18.)

If so, what then? Acts that naturally conduce to any results, must have power naturally so to conduce; that power is either derived or underived; if underived, it is Supernatural Power (God), acting directly as nature, as the ancient polytheists and nature-worshippers thought; if derived, it must be derived from the Underived, or is Supernatural Power (God) acting indirectly as nature, as some theistic scientists now think. Mr. Spencer admits this Power when he says:

"The consciousness of an Inscrutable Power manifested to us through all phenomena, has been growing ever clearer; and must eventually be freed from imperfections. The certainty that on the one hand such a Power exists, while on the other hand its nature transcends intuition and is beyond imagination, is the certainty towards which intelligence has from the first been progressing. To this conclusion Science inevitably arrives as it reaches its confines; while to this conclusion Religion is irresistibly driven by criticism. And satisfying as it does, the demands of the most rigorous logic, at the same time that it gives the religious sentiment the widest possible sphere of action, it is the conclusion we are bound to accept without reserve or qualification." (F. P., § 31.)

And this Inscrutable Power is so much a power of not-nature, that Mr. Spencer calls it the supernatural. If supernature be admitted, or proved, we again ask why natural morality should be affirmed, and supernatural morality be denied?

(*b*) A Supernatural Person. Nothing impersonal can be immoral, or prescribed morality to a person. Moral conduct is personal conduct prescribed by personal authority. The impersonal adjustments of impersonal acts to impersonal ends, is not morality, but simply material evolutions.

Impersonal nature cannot be all; for, in personal man, even if there be no personal God, personality exists. Infinite, omnipresent personality is no more incomprehensible than a finite and present personality. If finite personality is in nature, why is there not an infinite personality in supernature?

Sir John F. W. Herschell says ("Popular Lectures," XII.), "In that peculiar mental sensation, clear to the apprehension of every one who has ever performed a voluntary act, which is present at the instant when the determination to do a thing is carried out with the act of doing it, we have a consciousness of immediate and *personal causation* which cannot be disputed or ignored. . . . In the only case in which we are admitted into personal knowledge of the origin of force, we find it connected with volition, and by inevitable consequence, with *motive and intellect*, and with all those attributes of mind in which personality consists. . . . It matters not that we are ignorant of the mode in which this is performed. It suffices to bring the origination of dynamical power, to however small extent, within the domain of acknowledged personality."

We have said that evolution is a method, not a power; but method implies power, and both method and power are superhuman. A superhuman method implies a superhuman power, and a superhuman power implies a superhuman method ; a superhuman method implies a superhuman mind ; superhuman mind implies superhuman consciousness, and as human consciousness constitutes human personality, so superhuman consciousness implies superhuman personality ; in other words, a personal God. If these be logical conclusions, evolution and a personal God stand or fall together. In other words, we cannot think of a creative power without a creative plan, nor of a creative plan without a creative power, nor of a creative power without a creative intelligence, nor of a creative intelligence without a creative Person.

The relation of evolution to religion is thus seen to depend upon the answer to the question: Is superhuman power personal or impersonal ? If the power is impersonal, like impersonal power in the main-spring of a watch, with the maker of the spring out of our mind, there would be but one mechanical method, and nothing for religion. But, if, as we see all around us, there are four or more methods—two physical and two moral—and each respectively moving its force in a parallel, and opposite direction, we shall see that the power to manage such apparent conflict, must be one of free, superhuman Will ; and that this is a God, with everything for religion.

In derivative evolution, or like from like,

i. Personality is from personality. Here the look is *a posteriori* from a personal man *back* to a personal God. A human personality as a present fact, proves a superhuman personality as a past Factor. God created man in His own image. If we are created we can be personal like our Creator, if He so chooses; or, if we are generated, we *must* be personally like our ancestor, or like from like. We *are* persons, whether created or generated, or both ; and we must have a Creator or a Father.

Personal nature and impersonal nature are both facts; but it is personal nature only that knows anything of impersonal nature; or, to state it otherwise, we cannot declare a thing to be unless it is known to be; therefore nature cannot be said to be impersonal unless there is a personal nature to know and say it. Impersonality converts or evolves itself into personality when it speaks of itself.

Mr. Spencer says, "Some make the erroneous assumption that the choice is between personality and something lower than personality; whereas the choice is rather between personality and something higher. Is it not just possible that there is a mode of being as much transcending intelligence and Will as these transcend mechanical motion? It is true that we are totally unable to conceive any such higher being. But this is not a reason for questioning its existence; it is rather the reverse. Have we not seen how utterly incompetent our minds are to form even an approach to a conception of that which underlies all phenomena? Is it not proved that this incompetency is the incompetency of the conditioned to grasp the unconditioned? Does it not follow that the ultimate cause cannot in any respect be conceived of by us because it is in every respect greater than can be conceived? And may we not therefore rightly refrain from assigning to it any attributes whatever, on the ground that such attributes, derived as they must be, from our own natures, are not elevations, but degradations? Indeed it seems somewhat strange that men should suppose the highest worship to lie in assimilating the object of their worship to themselves." (F. P., § 31.)

Of course, human personality is in his mind; but is not superhuman personality that very something higher than human personality, to which he alludes? What is personality? We talk about persons and things. What is the difference? That which is not one, is the other. Why is a man a person, and an intelligent brute, and unintelligent objects only things? The man thinks. The brute thinks. The man thinks about his thoughts or is conscious, and for that reason is a person. The brute thinks, but does not think about his thoughts or is not conscious, so far as we have ascertained, and for that reason is only a thing. We know nothing in nature higher than consciousness. If there is consciousness above human consciousness, why should not such superhuman consciousness constitute superhuman personality, as human consciousness constitutes human personalilty? Is there any more reason for personality in nature than there is reason for it in supernature? If superhuman consciousness be admitted, why should superhuman personality be denied? Personality does not ascend from man to God, but descends from God to man. God is not like us; but we are as shadows self-cast from God. He was not made in our image, but we are made in His. Mr. Spencer admits both nature and supernature. Which begets the other? As the greater contains the less, so supernature contains and manifests nature. Therefore, if God, supposing Him to be conscious, from having given us consciousness, is not personal in His consciousness, we are not personal in our consciousness; for as we are from Him, if our consciousness makes us personal, why does not His consciousness make Him personal? Is nature parent or child? Did the universe begin in the finite, or in the infinite? If in the finite, then our personality is at the angle whose sides open out to the infinite. If man began in the infinite, then man's personality is the vanishing point of God's personality. It depends upon whether we look into or out of the angle, as to whose personality is before us. The method of nature, according to the theory of atheistic evolution, has been from the impersonal to the personal; for personal man is here. In the future progress of man, which evolution makes inevitable, is our present human personality to go forward to a superhuman personality or to to a superhuman impersonality? Which exalts the more? Mr. Spencer said that "it seems somewhat strange that men should suppose the highest worship to lie in assimilating the object of their worship to themselves." But it is not strange that men should suppose that the highest worship lies in assimilating themselves to the object of their worship. The struggle is to lift our personality towards His; to get something exalting from Him. We think Him perfect in that in which we are imperfect. We accept our personality as a profert of His personality. As conscious intelligence constitutes us persons, we ascribe personality to Him from whom these and all things come to us. Religion worships the parental Being, whether personal or impersonal; but constituted as we are, we cannot worship or feel accountable to a mere abstraction—an impersonal, blind, unintelligent Power. We are accustomed to associate authority with personality, and to look to this Supernal Power as "touched with a feeling of our infirmity." Beyond this question of worship, the personality or impersonality of Power, is a mere idle inquiry to religion.

Has science more reason to impersonalize force, than religion has to personalize it? Indeed, science can neither affirm its impersonality nor deny its personality, as it confesses its entire ignorance of the whole subject. Upon this question, the true scientific attitude of science is ignorant silence.

If human personality is derived, it must be, on the principle of like from like, from a superhuman personality. If human personality is not derived, it must be by original creation; and creation implies a creator.

ii. Personality is not from Impersonality. If personality is not from personality, is it from impersonality? If the eternal is one, and Personality and impersonality are not two eternal and different things, which is from the other? A few atheistic scientists assume the impersonality, while the many theistic scientists claim to *prove* the personality, of the Factor, of all facts, by the very facts themselves.

Evolution claims that the eternal and universal instability of the homogeneous ever seeking an impossible equilibrium, produces the heterogeneous—something unlike itself. How, then, does it account for the law of heredity, of like from like? The principles are directly contradictory, and so far as one is true the other must be untrue. To give up the differentiation of the heterogeneous from the homogeneous, gives up the whole theory of evolution; and to adhere to it, gives up the whole theory of heredity, or of like from like. Did human personality come from superhuman impersonality under the law of heterogeneity from homogeneity, or did it come from superhuman personality under the hereditary law of like from like? If it began under the law of unlikeness, how did it get under the law of likeness?

All phenomena are by creation or by derivation. In derivation, like is from like—producer and product—like vegetables from like vegetables, and like animals from like animals. In creation, producer and product are unlike; the convex bullet is unlike the concave mould, and the maker of the mould is unlike both the mould and the bullet. Now, in the universe there is personal nature, and there is impersonal nature; but one is not the other. Impersonal nature cannot do what personal nature does, and personal nature cannot be what impersonal nature is. If, upon the principle of unlikeness, as between the mould and the bullet, or the coin and the die, personal nature came from impersonal nature, then, upon the same principle of unlikeness, impersonal nature came from personal nature. But if, upon the principle of like from like, impersonal nature came from impersonal nature, then, upon the same principle, personal nature in man came from a higher personal nature in God.

Evolutionary changes from uniformity to multiformity, in all things without life, as from minerals to vegetables, are creative, not genetic; and the advance is *per saltum*, by extrinsic power. Heredity alone is directly genetic, and indirectly creative. All unmixed matter, such as oxygen and hydrogen, is both homogeneous and inert. To these homogeneous gases, some extrinsic power first gives instability, by overcoming their inertia; and then, by dissipating their motion, integrates them into heterogeneous water. In more technical phraseology, extrinsic power for these, and all other elements of matter, directly creates the instability of the homogeneous; and, indirectly, through the instability of the homogeneous, the same extrinsic power creates the heterogeneous. The same extrinsic power creatively dissipates motion, and, through the dissipation of motion, the same extrinsic power integrates matter. Extrinsic power, known as a single cause, creates a multiplicity of effects. Extrinsic power, out of incoherence creates coherence; and out of the indefinite creates the definite. Here is a creative, not a genetic line of advance. *Hence, theistic evolution is simply a method of progress*, PER SALTUM, *by extrinsic creative power.*

Now, if the personality of this creative power be denied, its impersonality will be assumed; and the sam e*necessity* of progress that moved impersonal nature on to personal nature in man, must move it on to a personal supernature in God. Here the *a priori* look is from a personal man on to a personal God.

The unintelligent impersonal necessity that did not know how to begin, does not know how to stop. If supernature did not originate nature, nature must originate supernature. In other words, if a personal God did not make impersonal nature, impersonal nature must make a personal God—there is a personal God at one end or the other of this line of evolution. The materialists insist upon the impersonality of the Factor of all facts; and offer, in proof, two conflicting theories of nature.

The first theory claims that uniform law is the impersonal factor of all facts, like conditions producing like results. In this sense, law is only a method of power, and not the power itself. Method governs nothing and produces nothing. But, if we can judge as to what law is in nature without by the light of our own consciousness within, law is personal Will. This will may act with or without conditions; but, in itself, Will has no conditions. The method of law is only the uniformity of will, and its power is the diversity of will. In a word, can impersonal law account for the fact of human personality?

The second theory of an impersonal Factor of all facts, including the fact of our personality, is that of impersonal evolution which we have been considering. Its leading idea is, that in the instability of the universe (called the instability of the homogeneous) things are agitated and changed into the condition we find them without the agency of a personal or even a supernatural Factor.

According to these two impersonal agencies, Law is a method of impersonal repetition, and Evolution is a method of impersonal development; but, if everything is repeated under law, then nothing is developed under evolution; and *vice versa*, if everything is developed under evolution, nothing is repeated under law. Both theories seem to be true but contradictory. But, evolution proves, as we have seen, a personal not an impersonal Factor.

The phenomena of the universe exhibits a fixed, mechanical method, and a free, voluntary method—fixed as in law, when, like a compass always describing the same circle, like conditions alway producing like results; and free, as in evolution, when, like the changes in the kaleidoscope, no combinations are ever repeated. The apparent contradictions of the universe all disappear under the management of a personal God. Law has a free Law giver, and Evolution has a free Evolver.*

iii. Supernatural consciousness proves supernatural personality. What is consciousness? To be conscious is not only to think, but it is to think about our thought. Mr. Spencer says (Psy., § 377), "To be conscious is to think; to think is to put together impressions and ideas; and to do this is to be the subject of internal changes. It is admitted on all hands that without changes consciousness is impossible; consciousness ceases when the changes in consciousness cease." Not stopping to sustain a dissent to this doctrine, yet supernature never ceases to change nature. Evolution is nothing but change.

Nature is the ever-changing panorama of supernature. If every kind of change makes consciousness, then all Nature is conscious. If the teaching of evolution be valid, and instability is universal, then in universal instability there is universal consciousness. No explanation is offered why, out of an universe of changes, some changes manifest themselves as consciousness, but more changes manifest themselves as unconsciousness. The psychology of consciousness from a succession or change of ideas is not consistent with its own law of change. It is not a law, for it is not universally true, that out of change emerges consciousness. He says again, "Changes form the raw material of consciousness, and the development of consciousness is the *organization* of them." (*Ib.*, § 378).

It is said that there can be no conscious being we call God; for consciousness is in change, and God, as it is claimed, changes not. Consciousness in God implies change in God. Mr. Spencer says, "Such a conception of the divine consciousness is irreconcilable both with the unchangeableness otherwise alleged and with the omniscience otherwise alleged." (*Pop. Sci. Monthly*, Jan., 1884.) But if we drop the religious word God, and take up the scientific word, Power, must not that power be conscious which produces the changes which produce consciousness? If change is essential to consciousness, then an omniscient and omnipotent creator can create supernatural changes and so have supernatural consciousness. This supernatural person can be morally and essentially unchangeable; and yet, for the "raw material of consciousness," if such material must be, He can be unchangeably changeable. To be conscious is not only to think, and to think about our thought, but it is to *know* intuitively that we *exist*, and *this* knowledge of existence is consciousness. Mr. Spencer speaks of "the one absolute certainty, that he (man) is ever in the presence of an Infinite and Eternal Energy, from which all things proceed." (*Pop. Sci. M.*, Jan., 1884.) If this Eternal Energy from which we *proceed*, could send us forth with a knowledge of ourselves, has this Energy no knowledge of its *own* self?

---

* "God Out and Man In," pp. 39 *et passim.*

Like from like is derivation; unlike from unlike is creation. If we are derived, we are like our ancestor, and because we are conscious of our existence, it must be because He is conscious of his existence. He makes us like himself. But if we are created, we may be created like our creator, and be conscious of our existence as He is conscious of His existence, or we may be created unlike our creator, and be as He may chose to make us. But, if we are created because we, having consciousness, are unlike an unconscious Creator, then the question arises: Can an unconscious Creator create a consciousness in a creature?

Mr. Spencer mistakes the contents of consciousness for the whole of consciousness itself. Consciousness of existence is one thing, and the remembrance of the ideas and feelings which successively attend upon existence, and constitute the contents of consciousness, is quite another. The contents of the consciousness of one, are not the contents of the consciousness of another. The knowledge of existence is all in consciousness that is common to all consciousness, human or superhuman. Consciousness is knowledge of *existence*; memory is a mental faculty which recalls objects and occurrences which constitute ideas and feelings.

Mr. Spencer in denying a divine consciousness, says, "A consciousness constituted of ideas and feelings caused by objects and occurrences cannot be simultaneously occupied with all objects and all occurrences throughout the universe." (*Pop. Sci. M.*, Jan., 1884.) This may be true of human consciousness, but not of superhuman. Are the contents of consciousness limited to any particular number of ideas and feelings? If a few ideas and feelings constitute human consciousness, many ideas and feelings would constitute superhuman consciousness. Supernature changes Nature. Some Power, intelligent or unintelligent, "is simultaneously occupied with all objects and all occurrences throughout the universe." Is there no consciousness in a power so occupied in changing all things? If "changes form the raw material of consciousness," surely the "Infinite and Eternal Energy from which all things proceed" includes all needful changes for an infinite consciousness. The homogeneous is ever unstable; and if there is consciousness where there is instability, then consciousness is omnipresent. If changes produce consciousness, is the Power which produces the changes unconscious? Or putting the inquiry otherwise: Does an unconscious Power produce changes which in turn produce consciousness?

If human consciousness is constituted of ideas and feelings caused by objects and occurrences here below, why should not consciousness be superhuman, because it is occupied simultaneously with all objects and all occurrences throughout the universe? As there are more "ideas and feelings caused by objects and occurrences" in some men's mind than n others, so, while the consciousness of existence is the same, there are more contents in the consciousness of some minds than in that of others. The number of these ideas and feelings caused by objects and occurrences in human consciousness enlarges the contents but does not destroy the consciousness. So the ideas and feelings caused by all the objects and occurrences throughout the universe, would only universalize the contents of the consciousness. Why should a few objects and occurrences causing a few ideas and feelings constitute consciousness in us, and not the many objects and occurrences throughout the universe, cause ideas and feelings to constitute a consciousness in some higher mind? The consciousness from many objects ought to be greater than that of the few.

Mr. Spencer says (*Pop. Sci. M.*, Jan., 1884), "The power which manifests itself in consciousness is but a differently conditioned form of the power which manifests itself beyond consciousness." If change produces consciousness, why does not the change beyond consciousness produce consciousness? If to change is to be conscious, then why is it that the changes by one and the same power are partly conscious and partly unconscious—that is, conscious in man and unconscious in stone? How, in a system of necessity, where some things are necessarily conscious, are not all things necessarily conscious? How do the unconscious changes escape consciousness? Consciousness is from the power that changes all things, not in the changes themselves.

From human consciousness we infer, as like from like, superhuman consciousness. Conscious power is here admitted—conscious power in man, it is true—but a conscious form of a power that, throughout the universe, is one power—a drop out of the ocean—a finite form of the Infinite. This unity of power, giving the different names of consciousness, gravitation, and chemic affinity to different manifestations respective of one and the same power, is a phase of pantheism. Mr. Spencer says, that "To believe in a divine consciousness, men must refrain from thinking what is meant by consciousness." Rather say the contents of consciousness. Men may well refrain from thinking what is *meant* by the contents of consciousness, so that they admit the *fact* of the consciousness, of existence itself. In gravitation, electricity, and other forces, we admit facts whose meaning we do not know. No logic can obliterate the knowledge of each man, that he exists and is therefore conscious.

Is consciousness in man like nothing behind man? Is the conscious form of the one power of the universe, totally unlike the other form or forms of this power lying beyond human consciousness? In the established law of heredity, like is ever from like—life from life—consciousness from the conscious—intelligence from the intelligent—personality from persons. To this law there is no exception. Universally where this derivation is not, there is direct creation. There is a tremendous leap—a creative leap from the homogeneous to the heterogeneous. There is no derivation of the heterogeneous from the homogeneous, and so the leap is a creative leap. Human consciousness is either derived from superhuman consciousness, or it is created by superhuman unconsciousness—human consciousness is a fact, however accounted for. Did a higher order of superhuman consciousness transmit by derivation, a lower order of human consciousness, or did a lower order of superhuman unconsciousness create a higher order of human consciousness? Consciousness cannot be *derived* from unconsciousness.

Consciousness is certainly a higher manifestation of this Power than the unconsciousness beyond consciousness. Is not human consciousness a higher manifestation of this Power than another form of it lying beyond in the stone which human power crushes, weighs and analyzes? If, in the law of heredity, like is from like, then human consciousness is from superhuman consciousness. The admission of human consciousness is the admission of an ancestral superhuman consciousness, or a denial of the law of heredity.

iv. Supernatural Will proves supernatural personality. Applying the same law of heredity of like from like, human will is proof of a superhuman Will. Mr. Spencer says (*Ib.*), "Whoever conceives any other Will than his own must do so in terms of his own will, which is the sole will directly known to him—all other wills being only inferred." As man cannot *know* any other will than his own, if it is possible for him to *infer* the fact of the existence of any other will than his own, it is also possible for him to infer attributes of the will so inferred, more exalted than his own. But what is Will? It is power over action, whether human or superhuman. Mr. Spencer mistakes the motive of the will for the power of will, as he mistakes the contents of consciousness for consciousness itself. He says (*Ib.*), "Will, as each is conscious of it, pre supposes a motive—a prompting desire of some kind: absolute indifference excludes the conception of will." But power is one thing, and energy is another. Power is latent; energy is patent. Instead of will presupposing motives, motives presuppose will to be moved. Will acts *ex mero motu, sponte sua, sine lege.*

Mr. Spencer's doctrine of the identity of will and motive is like making the steam bring its own engine with it, in fact being both steam and engine at the same time. Now will and motive are one and the same or they are different and successive things. But when Mr. Spencer admits that "Will, as each is conscious of it, presupposes a motive," he admits that one succeeds the other—that the will succeeds the motive—presupposes the motive. He admits succession when he says that the motive is first and the will is second in order of time, is to put the cart before the horse—that the motive comes and waits for the will—the thing to be moved —to catch up—indeed to be evolved, and then catch up. To admit that one succeeds the other, is to admit that one is not the other. To admit this is to admit that will is before motive: for motive is not a motive until a will exists to be moved ; and so, will must be first for motive to be at all. "The conception of the divine Will," says Mr. Spencer (*Ib.*), "derived from that of the human will, involves, like it, localization in space and time: the willing of each end, excluding from consciousness for an interval the willing of other ends, and therefore being inconsistent with that omnipresent activity which simultaneously works out an infinity of ends." The conception of an omnipresent divine will, requires that the will localized as a human power, must be delocalized as a superhuman power. To get above humanity, it must get above locality. The Infinite Pleroma is the sum of localities.

This supernatural, personal Omnipotence manifests its Will in two methods. One method is manifested with sovereign uniformity in the material sphere of nature, with no Will of its own; the other method is manifested in the mental sphere of nature, with a Will of its own.

"There are diversities of gifts, but the same Spirit. There are differences of administration, but the same Lord. And there are diversities of operations, but it is the same God which maketh all in all." (1 Cor. xii., 4.)

This supernatural method appears to be uniform in "the Constitution of things," where its grasp is only on blind, impersonal, unconscious, inert, matter. The eternity of uncreated and uncreating matter and force is as incomprehensible as the eternity of an uncreated and all-creating God. Is mind the product of matter, or is matter the product of mind ? Matter, as some think of it, cannot answer the question. Matter knows nothing of its own essence, origin or history, any more than the paper knows the origin of the poem or history written on its surface. But, if matter has existed from all eternity, has nothing but such matter so existed? The eternity of matter does not disprove the eternity of God. As mind is no less real than matter, if matter only be real and eternal, then matter is mind unto itself. But matter does not know itself to be mind, nor does mind know itself to be matter. In other words, matter is altogether unknown unless known to mind. As mind knows nothing older than itself, matter is not known to be older than mind.

If matter is eternally all, and being is not eternal, how is it that there are beings at all? It is a law that like produces like, but what is there alike in matter and being, that matter should beget being? If matter might propagate matter, how can matter propagate mind? If matter is the mother and mind is the child, it is indeed a strange, unnatural moment when the child opened its conscious eyes upon the form of its unconscious mother. Can mind be the chance product of matter? If mind be the product of chance, then what is by design? Can unintelligent chance produce a designing thing? Does matter work by design or by chance? If it work by chance, it produces designing mind; if it work by design, then is it not God? But if being be eternally all, and matter is not eternal, then what is that which we call matter? Is it being materialized? Is matter only an idea? We must think of being as a mode of matter, or of matter as a mode or as a creation of being. Both exist. How did omniscience get that control of matter which it now has? Did matter create or evolve mind as its own master, and did it, in mind, dig its own grave? Did matter surrender or delegate to mind, its own child, the control of its movements?

We do not know what matter is, nor what absolute being is; nor whether being can become matter, or matter can become being. The Scriptures teach that "in the beginning God created the heavens and the earth;" but whether creation means that Absolute Being originated matter, or that he materializes and manifests something of himself as matter, no human mind can know. How far is the Creator identical with his creation? Is the web a part of the spider? Does heredity make parent and child one? Can God make himself something that he is not? If not, must not that which we call matter be really a metamorphosis of the Being—another name for a manifestation—God himself? As God cannot separate or divide himself into parts. it would seem, to short-sighted mortals, that all is God, and God is all. Who can deny a personal pantheism? We can neither affirm nor deny that God may become what we call matter, for we know not what God may choose to do with himself. To God that is a God, nothing is impossible. Are we individualities of God? Can a conscious Being so abdicate himself as to become an unconscious thing? Is it more probable that God should convert himself into a serpent, than that he should create a serpent? Is not metamorphosis as incomprehensible as creation? Indeed, how do metamorphosis and creation differ? But Absolute Being, creation, matter, are all alike incomprehensible.

So far as our minds can grasp and state their relations, we may say, that, in the necessary unity of all things, this Absolute Being manifested Himself both in unconscious things and in conscious persons. When his will is creatively manifested in, if not as substance, it is known as matter: when as chemic force that will combines this matter, or when as mechanical force, it moves, or as vital force it organizes this matter, it is known as cause or force. When the Absolute Being manages this matter in a way that seems special to us, we think of him as a worker of miracles. When he manifests himself as a conscious person, we call him the Father of man ("for in him we live, move, and have our being"). When he addresses himself to man as an intelligent, moral, and therefore accountable being, his will is known as moral law. Paul says that there are diversities of gifts, but the same Spirit. And there are differences of administrations, but the same Lord. And there are diversities of operations, but there is the same God, which worketh all in all. All is a something from, if not of, God's personality. So that, to get God out of religion, you must first get him out of nature, by getting rid of matter, and by getting rid of his creative energies included in the idea of cause, known as force, law, life; for these are manifestations of Absolute Being, or facts of his intelligence and power —modes or outcomes of his personality.

We hold that, as God is spirit, we cannot think of matter as God; and yet we cannot think of anything as apart from God. His infinity and omnipresence would seem to displace matter, if spirit can be said to displace substance. The difference between this doctrine of *omnipresent and omniscient personal will*, efficient rather than immanent, and the ancient notion of *anima mundi*, or soul of the world, and Shopenhauer's impersonal, unintelligent, blind Will, is just the difference between God and no God. Does God create the matter-forces and then retire and leave them to go on without him, or *is he personally those forces themselves?* Can we not say that we see the efficient worker immanent in the effected work? St. Paul says, "God worketh all in all." But "God is a spirit, and we must worship him in spirit and in truth." Science must be silent when faith distinguishes between God and matter. *If God materializes himself, he forbids us to worship the divine materialization.* We must honor matter, not knowing how divine it may be. We may all say to each other, as the Angel said to Moses at the Burning Bush, "Put off thy shoes from off thy feet, for the place whereon thou standest is holy ground." Nor was Prof. Tyndall so profane, when he said, that "matter had the promise and potency of every form and quality of life."

Taking the eternity of God as a hypothetical standpoint of thought, there is seen to be from Him an ever-increasing materialized emergence—God's thought becoming visible. We cannot deny that there is a God by making matter everything; for that which is matter to you is Absolute Being to Spencer, Will to Wallace, Mind to Carpenter, Pure Principle to Youmans, Power to Fiske, Spirit to Paul, and God to the Angels. The visible side of matter is next to man, and the invisible side next to all above man. Still, whatever God may be to his matter, or whatever matter may be to its God, to *us* mind is not matter, nor is matter mind. We cannot deny the duality, but in the prospective of thought, God is the unity of both. He is the centre of that life which permeates the universe. We can think of eternal Being or existence, but we cannot think of an eternal thing or of an eternal manifestation. Did matter make mind, or did mind make matter? All-knowing mind, to be all-knowing mind, knows how to manifest itself as matter, and still remain mind; but matter as matter does not know how to become mind, and still remain matter, for it does not know anything. In the manifestation of mind as matter, it need not drop its intelligence, but only add to itself form and continue to be mind; but in the transformation of matter into mind, it drops its essence of form, and so ceases to be matter. But unless both matter and mind exist eternally, one must make the other. In that case, mind must be the Factor and matter the fact; for, if we suppose that mind, knowing everything, knew how to materialize itself and become visible in form, or to create matter when there was nothing; and that matter, knowing nothing, knew not how to mentalize itself, or to create mind out of itself, we must conclude that mind, which knew everything, made matter; and that matter which did not know how to make anything, did not make mind.

Things without life are extrinsically created: things with life are intrinsically generated. Mind presides over the sphere of like things of life, where by fixed intelligence in lower spheres things propagate things like themselves, as oaks propagate oaks, and wheat propagates wheat. But in the sphere of unlike things without life, such as oxygen and hydrogen, all depends on extrinsic creation by free intelligence. Oxygen cannot create oxygen, nor hydrogen create hydrogen, nor can either, by itself, produce anything else. Water is neither one gas nor the other, but a creation based upon both. One drop of water does not generate another drop; but each drop is an original, underived creation. The matter of the universe is an ever-continuing *creation:* the life of the universe is an ever-continuing derivative *generation.* Therefore, as mind and matter are most unlike, if one is from the other, it is an original creation, and not as a derivative propagation; just as the spider creates but does not generate from itself its own web. Every new web is a new creation, and not a hereditary generation.

As nothing does what it does not know how to do, universal mind must be the universal Factor, and all else are its facts. Science is limited to these facts: theology includes the facts, and by these goes on to a knowledge of their personal Factor.

But no one, apart from revelation, knows anything of the origin of either matter or mind. Both have been of old. "As we prolong the vision backward across the boundary of experimental evidence," knowledge is lost in speculation, and speculation is lost in the impenetrable darkness of the eternal mystery. Science may ascribe properties to matter, but science cannot know how, or whence, or what matter is. That inquiry belongs to philosophy and religion. Religion leaves to science the vain effort to solve the insoluble question as to what matter is, and what nature is; but religion worships, by the intuitions of faith, and the conclusions of logic, the God above and outside of nature.

v. Supernatural intelligence proves supernatural personality. Mr. Spencer says (*Ib.*), "Intelligence, as alone conceivable by us, presupposes existence, independent of it and objective to it." Equally so existence presupposes intelligence. Nothing can be said to be until it is known to be, but nothing can be known to be until there is mind to know it. Spencer speaks of Absolute Being, Wallace of Will, Carpenter of Mind, Fiske of Power, Youmans of Principle. Each of these are attributes of personality; and, when we conceive of them as what Mr. Spencer calls "Infinite Energy;" we reach the conception of what we call, God. God is, then, the constitution or the Constituter of things; and whatever necessity there is to consequences of conduct, is made obligatory by His Will, Mind, or Being. All these are personal attributes, lifting us from a blind, unintelligent, impersonal Nature, to the presence of a Personal God. Our human personality can communicate with something which it is like in superhuman personality, and understand its authority and sanctions to conduct. There could be no more monstrous mystery than the fact of an admitted human personality being held responsible to a superhuman Impersonality, without eyes to see a kneeling Race; without ears to hear its groaning, wailing, weeping, horrified appeals; without a heart of sympathy—an Impersonality of naught but an awful, omnipresent Hand to strike the appalled and quivering creatures of its remorseless production. True Science unveils the beautiful, not the Monstrous. The soul kneels upon the known phenomena, and bows its adoring head in the presence of the Unknown Noumenon.

The Supernatural Power and Person being proved, as we claim, we see that all moral conduct must be under its authority and responsible to its sovereignty. We are now prepared to show that so far as morality is an evolution, it must be a supernatural morality, through a supernatural method of evolution. It is evident, as the opposite of necessary conduct, that moral conduct is conduct prescribed or required by some competent authority. Nature, according to Prof. Hæckel, prescribes nothing. Further: It has been said that we must have a morality claiming supernatural authority or one grounded in nature; but nothing is grounded in nature that has not supernatural authority. Natural morality is the exponent of supernatural authority. Nature is but the manuscript of supernature. Nature is the phenomenal side of noumenal supernature. Therefore so far as nature teaches a morality, it teaches under supernatural authority. Nature is an open letter, addressed to all who can read it. Nature is but inspired things, telling in their way what cannot be so well told in any other. But how does the Supernatural *prescribe* morality? How can the Infinite communicate with the Finite? We see the fact to be that like communicates with like. By a sort of fixed inspiration called instinct, the human mother communicates with her offspring. The bird-mother, the brute-mother, and the human mother have no difficulty in making themselves sufficiently understood to their young. There is no difficulty in the Infinite making itself understood and prescribing to the Finite; Impersonal Facts prescribe as they are exponents of a personal Factor. A personal Factor may express his commands through his works as well as through his words. Works then become object language. A Supernatural Person can talk through natural things, if he chooses to do so; the simple question is: Has he done so? So far as nature is the foundation of morality, supernature prescribes it.

First, in Works. We learn from St. Paul (Rom. i., 19), "That which may be known of God is manifest in them; for God hath shown it unto them. For the invisible things of him from the creation of the world are clearly seen, being understood by the things that are made, even his eternal power and Godhead, so that they are without excuse."

Beside God's revealing manuscript in Nature, there was a code of moral law given to the conscience of each man. God, at one time "suffered all nations to walk in their own ways;

nevertheless he left not himself without witness, in that he did good and gave us rain from heaven and fruitful seasons." (Acts xiv., 17.) St. Paul says, "When the Gentiles, which have not the law, do by nature the things contained in the law, these, having not the law, are a law unto themselves; which show the works of the law, written in their hearts; their conscience also bearing witness, and their thoughts the meanwhile accusing or else excusing one another." (Rom. ii., 12.)

"The heavens declare the glory of God, and the firmament showeth his handiwork. One day telleth another and one night certifieth another. There is neither speech nor language; but their voices are heard among them. Their sound is gone out into all lands, and their words unto the ends of the world." (19 Ps., 1–4.)

Nature is the materialized language of Supernature—the divine pantomime of Time. Some facts speak louder than some words. Science reads in nature the divine hieroglyphics of the message of all that nature is not. Evolution is only a divine method in matter. Evolution cannot apply to religion, unless religion is a manifestation of matter; for evolution implies a material continuity and excludes will. Religion includes will, and excludes material necessity.

Materialistic Evolution is a necessity of nature, and includes only facts; but, though religious beliefs whether true or false, are facts, yet their fictions are not evolutions, unless, in evolution, fictions are facts. If, in the progress of evolution, all are to be facts and no fictions, why have fictions been at all? If evolution obliterates delusions, why evolve the delusions to be obliterated? What prevents the evolution of these delusions again, and others? No one can say that blind evolution aims at perfection; because being blind, it aims at nothing. Evolution has aims or it has not. If it has no aims it moves blind and without hope; if it has aims, and therefore hope, its aims are the supernatural previsions of that Absolute Being we call God. As religion implies will and is not a manifestation of matter, so evolution implies a manifestation of matter and excludes will. But if there be no supernatural Will in evolution, then evolution is not progress—has no plan—moves in no one direction—but is a wild, visionless, restless, universal chaos. Uniformity is will. Law is will and cannot be blind evolution.

Second, in Words. The Bible is written in the language of man, interpreting what God says in His works and in the events of the world. There are worlds; what do they say? There are events; what do they mean? The prophet, lawgiver, philosopher, or priest, is the one who reads the doings of God with infallible correctness. God uses no words of any language. But what He does, is what He says. Creation is the language of God. Moses was moved by God (who certainly knew how to move the mind of a creature of His hand) to tell, in his own Hebrew words and style, what God did say from what He had done, and was doing. St. Paul interpreted God, using the Greek tongue. Newton told what God had done and was doing in gravitation, using the English tongue. So that God is truly and fully interpreted, it matters not what tongue is used. God uses none that man uses. God's teaching is object-teaching. A star, a leaf, a death, means the same to a Gentile as to a Hebrew, though each gives to each thing a different name. The Prophet is so near to God as to understand Him—the godly understand God. We cannot read writing beyond the focus of our vision. Distance from Him, as from all else, blurs the writing we seek to read.

Therefore if, as we claim to have proved, the Factor in law is a supernatural Will; if the energies of the mind are supernatural in its present and future attainments, moving from omniscience to omniscience, or from nescience to omniscience; if the science of nature reveals a power in nature for which nature cannot account; if the theistic idea works out in civil society as the surest civilizer, we claim that the induction warrants the conclusion, that there is Supernature, or a Supernatural power, prescribing a free morality, through a supernatural person. There can be no necessity in morality, if the universe is under law.

(*a*) Necessity is inconsistent with the government of law. We are told that the universe is *governed* by law, but if everything is *necessary*, then nothing can be governed; and, if everything is governed, then nothing is necessary. If it is meant that everything is necessary, and nothing is a creation, then, I ask, is the intelligence which we predicate necessity of everything, a necessary intelligence? Do we necessarily know that everything is necessary? If we necessarily know this, why do not all necessarily know the same thing? Are the religious doubts of one necessary, and is the religious belief of another necessary? In a word, do all who hate, necessarily hate; and do all who love, necessarily love? Are all dishonest people necessarily dishonest, and all honest people necessarily honest? If all the evil conduct of men is necessary, and has no creator in the man himself, why hold him responsible? Was it necessary for the Egyptians to enslave the Israelites? or for the Jews to have polygamy? Where does necessity end and where creation, or liberty and responsibility, begin? If that which necessarily exists be necessarily unintelligent, then it is necessarily ignorant and ought to be silent.

But necessity is only a method of self-prescribed uniformity of Will. Prof. Huxley says, "If there be a physical necessity, it is that a stone unsupported must fall to the ground. But what is really all we know about this phenomena? Simply that in all human experience, stones have fallen to the ground under these conditions; that we have not the smallest reason for believing that any stone so circumstanced will not fall to the ground; and that we have, on the contrary, every reason to believe that it will so fall. It is very convenient to indicate that all the conditions of belief have been fulfilled in this case, by calling the statement that unsupported stones will fall to the ground, a 'law of nature.' But when, as commonly happens, we change *will* into *must*, we introduce an idea of necessity, which most assuredly does not lie in the observed facts, and that have no warranty that I can discover elsewhere. For my part, I utterly repudiate and anathematize the intruder. Fact I know and law I know, but what is this *necessity* save an empty shadow of my own mind's throwing?" Mr. John Stuart Mill's idea of necessity is "That word in its other acceptations involves much more than mere uniformity of sequence; it implies irresistibleness. Applied to the will, it only reasons that the given cause will be followed by the effect subject to all possibilities of counter action by other causes; but in common use it stands for the operation of those causes exclusively which are supposed too powerful to be counteracted at all. . . . Any given effect is only necessary provided that the causes tending to produce it are not controlled." ("Logic," Bk. vi., ch. 2., § 3.)

Admit that ill consequences uniformly follow actions classed as evil, because of those consequences. Is that uniformity preventable or not preventable? If preventable, the idea of uniformity does not exclude remedial or interrupting factors. In other words, causes called evil may be naturally or supernaturally resisted; as in the case of one natural law preventing the operation of another natural law. If nothing can prevent certain consequences from following certain actions, there must be some irresistible power to make it certain; and this brings us back to the remark, that power measures necessity, and the necessity of results is in the power to necessitate results. There is more necessity for power in necessity than in all else. The difference between a system of necessity in nature, and of an economy of grace, is that in an economy of grace the great Ruler publishes laws that are holy, just and good, and prescribes the consequences of persistent disobedience. But he ever holds the conduct and the consequences, as he does all else, in his all-wise control. He is merciful and forgiving, where a God might well claim to be merciful. Knowing that it is a fearful thing to fall into the hands of the living God, we are sure that no mercy included in the religious system of conduct and consequences ever encouraged wrong doing. That is, which we observe to be; but there is no necessity that it should be as it is. There is necessarily no necessity in anything. All is as God wills it; and will to be will, must not be under any necessity. *There is no necessity above God, compelling Him to make anything necessary below Him.*

But whatever law may be essentially, and to us, it is no law to the lawgiver. He makes no law for Himself; and His will being law itself, is bound by no law. Supreme law cannot bind Supreme law. As he that makes anything must himself exist before the thing which he makes, so must the lawgiver exist before the law is given. Nothing can bind the Binder. Nothing can be more omnipotent than omnipotence. That which is a rule to man is will, but it is not a rule to God. Below Him all is as He pleases; whether it be uniform or not uniform, connected or disconnected; whether we call it law or miracle.

(*b*) The special action of Will in miracles. After God's will became known as matter, as cause, as force, as life, as providence, as law, as command, when it did some special thing, it was known as a miracle. A miracle is a fact. The first of everything was a miracle—the first atom, the first seed, the first insect. God is the worker of superhuman miracles as man is of human miracles. Nature is a miracle. Nature is the miracle of supernature.

A superhuman miracle is a fact, as the creation of the world, and all that is in it; and a human miracle is a fact, as every act of the human will. We say this, because every act is a miracle which is not under law, and no will, human or superhuman, is under law. All will is a law unto itself. Even superhuman will may speak to, but not coerce human will, without destroying it. A miracle is a fact. There is everywhere, and in everything, nothing but a miracle. Law is the miracle of miracles. The first drop of water produced was a miracle; nor did it cease to be a miracle when the second was produced.

All original and unrepeated acts are miracles; all acts are original and unrepeated: therefore all acts are miracles. To repeat is to do the *same* thing; but while similar things are done, the *same* thing cannot be done twice. If to overcome law is a miracle, then any one may perform a miracle. When it is said that the universe is governed by law, of course it is meant that every atom, motion, and change of every kind, is governed by law. Raise your hand and let it fall again to your side! So. When your hand, which hung at your side under the law of gravitation, was raised by your will, was it raised by law or not? If it was raised by your will in spite of law, your will overcame the law, and is a miracle. If will is not law, then it is stronger than law, and law does not govern the universe, for it does not govern will. That governs the universe, as we have said, which governs law. In the case before us, will governs law, and therefore will governs the universe—indeed, will is law. If will governs the universe, then there may be answers to prayer, special providences, and miracles, or anything and everything that supreme will may choose to do. One miracle is enough. A drop of water answers you.

But right here is a difficulty, not in the sufficiency of proof, but in the prejudice, or prepossession of the mind to which it is submitted. Everything is doubtful to a doubting mind. All proof, whether of one kind or another, must be submitted to minds of preconceived notions of some sort—minds with a theistic or an atheistic bias—and these proofs are sufficient or insufficient, according to the bias. To an atheist, miracles are impossible, because he believes in no God to work them. In denying a God, he denies all a God can do. In other words, admitting a God, we can account for all things; in denying a God, we can account for nothing.

A supernatural Being can do supernatural things. But to believe in a truth, we must be in sympathy with it; or at least not in antipathy to it. As before said, all is doubtful to a doubting mind. While prepossession is not proof, prejudice is not refutation. The mind without a God, sees a universe without a God. But a mind having God within, sees all things live, move, and have their being in God. Law, force, miracle and cause are different names for Will. As we widen the field of law, we multiply the number of miracles; for miracles are not the exception to law, but law is the uniformity or system of miracles. Law, as the assumed invariability of will, is essentially and possibly, variable. Law-phenomena and miracle-phenomena, are both will-phenomena. A equals X plus Y. In other words, law and miracle, cause and force, make the sum of will; but *to this will, there is no law and no miracle.* One volition is as natural as another; is as much a law as another; and is as much a miracle as another. If asked what is a miracle, I ask, what is law? Miracles are defined when law is explained; when law is explained, miracles are proved. Miracles have hitherto been put upon the defensive; but the time has come, for the more philosophical understanding of truth, to put law upon explanation. That is a miracle in nature which is alone in nature. Each of the three Kingdoms, mineral, animal, vegetable, is alone in the universe; and each to every other Kingdom, is a Wonder—a Miracle Law is the greatest miracle of God. To say that law is in the fact of like results from like conditions, is to state merely a fact, not to give a principle; a result, not an effect; a method, not a power; a sequence, not a consequence. But whence the conditions? According to the notion of some, the change of conditions changes the law. Miracles may work by conditions as well as law. In law the conditions are repeated; in miracles they are not repeated. Put the possibility of miracles in the change of conditions, if that will help the matter. Give to law its conditions, and to a miracle its conditions. Nothing is impossible with God.

It is said, "The elevation of a body in the air by the force of the arm, is a counteraction of the law of gravitation, but it is a counteraction of it by another law as natural as the law of gravity. The fact, therefore, is in conformity with the laws of nature. But if the same body is raised in the air without any application of known force, it is not a fact in conformity with natural law." But when the arm raises a stone in the air, it is not the arm, but the will of the man that raises it; and the will is a known force. Is not that will a natural law—all the natural law there is? If so, may not the will of another raise it? If a will can raise it, what is it that pulls it down, but the will of some other? If some other will pulls it down, may not the will of that other raise it up? When a man raises a stone in the air, his will overcomes the will of some invisible person that pulls it down. If the will of a finite person raises, may not the will of an infinite person pull down? God's will manifests itself twice as much in two ounces as it does in one.

When science explains a law, theology will explain miracles. To account for law is to account for miracles. Law is essentially what miracles are, and nothing more; and miracles are essentially what law is, and nothing less. The mistake has been in putting miracles upon proof, instead of putting law upon explanation. Miracles are not the exception to law; but law is the uniformity of the miraculous Power. Law is the totality of miracles. But law and miracles are essentially the acts of one and the same Absolute Will. The will of God has general manifestations called laws, special manifestations called miracles. But there was a miracle before there was law, just as the end of a line is before its prolongation. The first thing in the universe was a miracle—a something done antecedent to all conditions—an act of Absolute Will.

An uniform repetition of those miracles or acts of the will, are the laws of nature. But the special was before the general —indeed the general was only many specials in succession. Nature is but the visible shapes of will—some special as in miracles, and some general and uniform, as in what are called laws. Both miracle and law mean nature, and nature means Absolute Will. Therefore, the explanation of miracle is identical with the explanation of law. Miracle does not suspend, violate or withdraw itself as an exception to the law-order of nature; for law being the uniform willing, or volition of the Absolute Will, cannot suspend, violate, or except itself. One act of will does not suspend another act of will; nor does one act of will violate another act of will; nor is one act of will an exception to other acts of the same will. Will is will, and that is all there is about it. When law is accounted for essentially, then miracles are accounted for rationally.

As the best proof of events so long passed, I submit Paley's great proposition, that "There is satisfactory evidence that many professing to be original witnesses of the Christian miracles, passed their lives in labors, dangers and suffering, voluntarily undergone in attestation of the accounts which they delivered, and solely in consequence of their belief of those accounts; and that they also submitted, from the same motives, to new rules of conduct." These are the witnesses to the miracles of the past; we are ourselves witnesses of the miracles in the present, throughout nature.

3. Therefore, all supernatural Morality is free. There can be no necessary morality. There is nothing necessary in the universe, if there is any free will in it.

If evolution covers mind as well as matter, it must be because matter becomes mind, or because mind is as necessary as matter. But the moral system is something that the material system is not. The material system of evolution is government without a Governor—it is intelligent work without intelligence in the worker. But such conclusions are not consistent with known facts and phenomena. Will in its work cannot be accounted for as mentalized matter. For this Will, Supernatural Power, Mr. Spencer says, "right, as we can think it, necessitates the thought of not right, or wrong, for its correlation ; and hence, to ascribe rightness to the acts of the Power manifested through phenomena, is to assume the possibility that wrong acts may be committed by this Power. But how came there to exist, apart from this Power, conditions of such kind that subordination of its acts to them makes them right, and insubordination wrong? How can Unconditioned Being be subject to conditions beyond itself?" (D. E., § 99.)

Unconditioned Being is not subject to conditions beyond itself. We cannot ascribe rightness to the acts of the Power manifested through phenomena, and therefore by no possibility can wrong acts be committed by this Power. Whatever this Power manifested through phenomena may do, is *sovereign*, and so is neither right nor wrong. Right is obedience to sovereign authority; and wrong is disobedience to sovereign authority, but sovereign authority can neither obey nor disobey itself. But why admit the Power and deny the intelligence manifested through phenomena? And, if we admit the intelligence, why deny the Will; and if we admit the Will, why deny the Personality ; and, if we admit the personality, why deny God?

Is a supernatural method suitable to Will, quite different from its method in matter that has no will of its own? The moral system is based on commands prescribed by superhuman Will to a human Will. In the material system, there are no prescriptions or commands, but work is done without commands. There are no commands, because there is no ear to hear commands, and no Will to obey or disobey commands. If the materialistic system, which is the system of evolution, be the true and only one of the universe, then material nature did a useless work in evolving human Will.

But in accepting either natural or supernatural morality, both are accepted ; for nature and supernature are as inseparable as sunshine and shadow. The rose without the sun in its color, and in its perfume, is no longer the rose. Without supernature, nature is no longer nature.

There is no assortment of moralities. If, according to Prof. Hæckel and Mr. Spencer, nature is necessary and has no plan, then, as plan *in* nature must be supernatural *to* nature, all evolution—all evolution of moral conduct—with method or plan—or, in the language of Mr. Spencer, with "adjustment of acts to ends"—with purpose, with Will—must be supernatural. Do we observe any *plan* in nature? If evolutionary conduct be not natural and therefore necessary, it must be supernatural and therefore free.

Morality is possible only through freedom under a supernatural Will, revealed in written form, or developed in the consequences of conduct, or in both. If it be admitted, that it is only under supernatural authority, that acts commonly called good, and acts commonly called bad, naturally tend, the one to human well-being and the other to human ill-being, there will be no disagreement. It is not that morality is an evolution, but only as that evolution is denied to be a supernatural method, that the disagreement arises. Natural evolution is a mere process, without authority or responsibility, and cannot possibly evolve a morality. To supernatural evolution only as a method of Will, is a morality possible. As Nature according to Prof. Hæckel, being necessary and without method or plan, prescribes nothing, so all prescribed conduct must be supernatural.

We have said that there is no Natural Morality; for, if Nature is all, then all is natural, whether it be conduct commonly called good or conduct commonly called bad; and Nature does not hold man responsible to nature for conduct which Nature prompts. But if Nature is not all, then all that nature is not, is Supernature, and is authority to Nature for all the conduct required of man, and is also the Power for all the phenomena of Nature. Supernature to be Supernature must be *authority* to require of Nature, what Supernature may determine. Nature is the FACT, Supernature is the FACTOR.

If what is called Natural Morality, is not required or prescribed by supernatural authority, and if natural morality must have an authority, and nature can be no authority unto itself, then there can be no natural morality. That which is called Natural Morality, has, in fact, a supernatural authority, if any, and is ultimately, a Supernatural Morality. Supernatural morality is none the less supernatural because it has natural methods and verifications. Natural Morality must have either no authority, or a natural authority, or a supernatural authority. To say that natural morality has no authority, is to say, that it is necessary, and is therefore no morality. To say that natural morality has a natural authority, is to say, that conduct is an authority unto itself, which is impossible. To say that Natural Morality has a supernatural authority, is to say that with a supernatural authority, it is supernatural, and not natural morality.

Natural Morality as a natural evolution, is a necessity, and there is no authority in necessity and therefore no morality. We first meet authority, when we first meet personality, in all human associations. Impersonal authority is a conventional arrangement, and not an essential reality. Though, in philosophical discussion, traditional opinion of minds ever so eminent is not argument ; yet it is significant of the idea of the fundamental constitution of things that nearly all who have professed a belief in what, in any sense, might be called Natural Morality, have also been believers in a Supernatural Authority, behind it. A supernatural Person has, almost universally, been admitted to exercise ultimate personal authority over impersonal nature.

We call morality supernatural when we fix our attention upon, and magnify the supernatural law, and lose sight of the natural consequences of conduct; and we call morality natural morality, when we fix our attention upon, and magnify the natural consequences of conduct, and lose sight of the supernatural law. For instance, the natural consequence of drunkenness is disease—it naturally tends to the ill-being of the drunkard. From these consequences, the law is deduced that drunkenness is wrong. One says that this law is a natural law because testified to by what is called nature. Another says, that all natural laws are but an expression of supernatural authority. In fact, all nature is the objective side of supernature. Certainly, if the consequences of conduct are natural, the law by which consequences are consequences, must be supernatural: for the law must be above the consequences of its violation. That is authority to another which has power over that other ; and, thus, in the power of supernature over nature, it is authority to nature. The Supernatural, in the sense of eternal intelligence, justice and power, does not command things because they are right, but things are right because commanded by the supernatural. We are accustomed to speak of things as eternally right or wrong in the nature of things. But the supernatural only is eternal; and nothing was either right or wrong before supernaturally constituted. Rights and wrongs belong to relations; and relations are neither eternal nor unchangeable. We must look for knowledge of right and wrong to supernatural authority, however attested.

Finally, Science, as truth's passionless hierophant, lifts the veil from before the omnipresent throne of great nature's greater God. And when science tells us how great is the one, Religion tells us how much greater is the other. The worship of the supernatural in the future is to be greater than all the worships of the past, by just so much as the knowledge of nature in the future is to be greater than the knowledge of nature in the past. As a guide to conduct, and a companion study of Sacred Scripture, we should reverently seek to decipher the writing, to understand the thought, and to adore the presence. Whatever is below must be a manifestation of some power above—the human of the superhuman—the natural of the supernatural. The invisible photographs itself in the visible.

Admitting a God—personal, intelligent, all-powerful, and sovereign—who can order some things apparently free, such as the human will, and other things, such as the constitution of cause and effect in material phenomena, apparently necessary, we have the only solution of all the mystery about us, except the mystery of God Himself. As to mystery, science does not explain the mystery of its natural mysteries any more than religion explains the mystery of supernatural mysteries—its God. The mystery personal to religion is impersonal to science; but impersonal ethics from an impersonal authority, is impossible.

BEAUTY.

A Lecture delivered before the Summer School of Christian Philosophy, at Richfield Springs, August 31st, 1883.]

BY A. P. PEABODY, D.D., LL.D.,
Professor in Harvard University, Cambridge, Mass.

BEAUTY is, like the Right, undefinable, except as that which corresponds to the sense or faculty which has cognizance of it. The aesthetic sense belongs to human nature by birthright. It precedes culture and the possibility of culture. Tokens of it are among the earliest indications of intelligence in the child, nor are they wanting in the races that occupy the lowest rank as regards civilization. Like the moral sense, it is capable of education, and in the same way by conversance with its objects. The training of the moral sense consists in an enlarged knowledge of the intrinsic nature and inevitable tendency of moral acts ; these known, the moral sense spontaneously passes a right judgment upon them, even though the will be influenced in the opposite direction. So the training of the aesthetic sense consists in directing the attention to traits and elements of beauty in nature and art, which, clearly discerned, are the objects of a spontaneous judgment as to the fact, degree and quality of their beauty. There is no greater diversity in men's aesthetic judgments than in their moral judgments. There are certain acts as to the moral character of which all nature and developed minds form the same judgment ; there are others which present two or more phases, as to which judgment varies with time, place and culture. and varies simply because emphatic attention is fixed now on one, now on another aspect; as, for instance, in the case of duelling, which is approved, not as murder, but as the indication of honor, and in better times and conditions of society is condemned, not as an honorable act, but as murder. So especially in nature, there are objects full of beauty, and in nature and in art objects which have absolutely no beauty whatever, and with respect to these there is no difference of aesthetic appreciation among persons of mature and developed minds; while there are other objects, especially of art, which are double-faced or many-faced, in some parts or aspects beautiful, in others lacking in beauty, and as to these judgments vary, according as the attention is arrested by one or another of their different aspects.

The aesthetic sense cannot be resolved into any other faculty, or accounted for by any line of association. It is so far divorced from utility that the greater part of its objects are practically useless; while a very large proportion of the most essentially useful objects are wholly destitute of beauty. Nor yet can pleasure-yielding capacity constitute beauty; for while the most beautiful objects are, for the most part, such as minister to no other than aesthetic pleasure, there are among them, also, not a few which are regarded with dread, and some which are sought only with pain and peril. No living creature transcends in beauty the tiger and the cobra; and there are treacherous yet beautiful caverns and cascades, toilsome and dangerous heights where the loveliest mountain flowers bloom, nurseries of miasmatic disease where Nature is inexpressibly charming. Moreover, while a power evolved by need and use may be transmitted to posterity, we can hardly conceive of the transmission of associated ideas. If the sense of beauty is not an independent faculty, but grows from associations of pleasure or utility with its objects, then such associations could not spring up in any individual mind previously to its experience of pleasure or utility from some of those objects. If it be asserted that the moral sense is not an independent faculty, as I believe it to be, still, admitting that it is not so, I should maintain that the associations which constitute the moral sense might spring from each individual's experience and from the teachings of accumulated expeience, inasmuch as the child from the very awakening of consciousness is made to feel pain as the consequence of his wrong-doing, and is in his earliest years constantly learning from his parents and elders of pain as the inevitable result of the various kinds of wrong-doing. On the other hand, beauty is an experience prior to, and independent of, any other experience, personal or traditional, of its objects.

That the aesthetic sense is a distinct and independent faculty appears, first, as we have shown, from the impossibility of deducing it from any other faculty, or accounting for it by any experience or association; and, secondly, from our entire ability to conceive of its absence in otherwise perfectly endowed humanity.

The question now presents itself: can the aesthetic faculty be the result of evolution? With reference to the evolution-theory, I would disclaim all objections on theological grounds. It is an hypothesis at the best, and still awaits, perhaps must always await, adequate verification; but the same thing may be said of every theory of cosmogony, and he who professes to say with certainty how the universe was made, even though his exposition bear the stamp of approved and venerable orthodoxy, may be fitly confronted, as Job was in that grandest of dramatic poems, in which the Infinite Being is brought upon the stage to confound the wisdom of the wise with the question, "Where wast thou when I laid the foundations of the earth?" Evolution certainly accounts for some of the anomalies which specific creation fails to explain. It not only postulates the recognition of an infinite and intelligent First Cause, but it awakens, if possible, a loftier strain of admiring and adoring contemplation when we think of pristine specks of homogeneous protoplasm as charged with the germs of all organic being. Nor does this theory impair our reverence for the sacred records no less dear and precious to the Christian than to the Hebrew. The time has gone by for a resort to Genesis for authentic cosmogony and history; indeed, I do not believe that the compiler of that wonderful book had an historical purpose. He had a far nobler aim: to engrave the name and to stamp the image of the one Supreme God on the traditions of the earliest ages, and at every point to stop up the openings through which nature-worship, beast-worship and man-worship had invaded the primitive races, and usurped the homage due to Jehovah alone. The narrative of the creation, with its six working days and its seventh day of rest, was framed, not historically, but with reference to the week closed by its consecrated Sabbath, on which when the devout Hebrew, as bidden, meditated on the glory of God in the outward universe, he was reminded in the six successive acts of the creation-drama that sun, moon and stars, and all forms of organized and animated life were not even potential gods, because the works of God; and this in the same intent with which, afterward, the great inventors, who else might have been deified, are traced to human and, for the most part, to Cain-descended parentage, and the founders of races who else might have been deemed God-born have their human birth, age and death carefully recorded.

So far, then, as our religious faith is concerned, creation may have been, in part, in great part, evolution. The disciples of the evolution theory have, at least, their full right to ascribe to evolution all that it can account for, but no more; the effect cannot transcend the potency of the cause. Even if man, the earth-born, the outer man, must say, what I have not yet seen sufficient reason for saying, to the worm, "Thou are my mother and my sister," there are powers of the inner man, which can have been grafted on no ancestral tree save that whose trunk is belted with the inscription from the genealogy of Him who ever loved to call himself the Son of Man, "Which was the son of God." There is an entire super-sensual realm of humanity, which lies wholly beyond the range and reach of physical science. This realm includes the aesthetic sense, with which we are at present concerned. According to the evolution-theory, faculties are generated only by need, and perfected only by use. The need is inherent in the competitive struggle for existence; the use is in holding the ground once won, in maintaining the superiority once achieved. It is hardly conceivable that the moral sense should have had such a genesis and growth, unless it were under the governance of a Sovereign Power pledged to give supremacy to the Right. In the struggle for existence in a godless universe, the moral victory could hardly rest where brute force had not any check or limit. But leaving this question aside, by what possibility of chance could the sense of beauty emerge from such a conflict? It serves no material purpose; it meets no material need ; it can be a means neither of assault nor of defence ; it confers no mastery over other animals ; nor does it bear any possible relation to any lower stage of development. It is either a development out of the line of evolution and wholly unaccounted for; or else, an endowment derived from some power independent of the order of nature. But though the evolution-theory fails to account for the aesthetic sense, this faculty bears a close relation to other facts in nature equally unaccounted for. There is a world of beauty, vast and multiform, which, even were man insensible to it, would still bear testimony to a conscious, personal creator, in whom must reside the archetypes of all forms of beauty in the outward universe. If creation is nothing more than development, then there could be in the universe no development not born of necessity, subservient to some definite purpose, subsidiary to the essential functions of organized being. Even could the aesthetic sense in man be the result of evolution, it would still account only for the embodiment of the beautiful in his own creations, not for the outraying of it in portions of the universe which neither act on him nor are acted on by him. Yet in regions where man is only a casual wayfarer, in fields of space of which he is only a very far-off spectator, in spots which, but for his overpowering appetency for beauty, he would lack the courage and enterprise to penetrate, are forms and colors of intense and transcendent loveliness—scenes and objects which have no use whatever save to satisfy the aesthetic craving, and to awaken thoughts and feelings of admiration and worship. There is nothing on earth except the soul of man, from which we can conceive of beauty as having been evolved, and we have tokens of its existence ages upon ages before man began to be.

Mere evolution could give us in organized beings, in plants and animals, such members and organs as could bear a part in the economy of their several lives, and would undoubtedly leave in the higher orders vestiges of members and organs once serviceable, but now superseded, yet remaining as waymarks in the progress of development. But we see in living nature much that does not serve, and never can have served any functional purpose. Over and above all possible use present or past, we see a superfluity of beauty—flowers of the richest dye and most graceful contour an hundredfold larger than are needed to shelter the tiny seed ripening at their base; iridescent plumage which gives the bird no added speed or power, still less, protection; in fine, numberless combinations of tints that have no imaginable purpose but to adorn the magnificent gala-robe which is Nature's working-day dress.

In point of fact the phenomena in nature which lie outside of any conceivable course of development or series of evolutions very far exceed in number and in magnitude those that fall readily into line under the wand of the scientist. If then we throw aside the old theory of specific creation, and derive the whole framework of organized being from self-plastic energy in primitive monads, we yet shall find that a power beyond self-developing nature has fringed and garlanded the whole ascending order in the scale of being with rich and varied beauty, betokening a benignant, beauty-loving creator, whose joy-giving spirit has nowhere left itself without a witness. I have no desire to discredit the postulates of recent science—though as yet they are mere postulates—if they will claim only the ground they cover. But blended with them, beyond them, above them, we have a universe full of refreshing, gladdening, beatific sights, scenes and objects, to which no theory of spontaneity or derivation from primeval or pre-existent types can be applied, and of which the only solution is that suggested in Holy Writ, " He hath made everything beautiful."

The definite purpose to embody beauty in the order of nature —a purpose indicative of a controlling will—may be seen in the persistency and constancy of beauty through the inevitable changes in a system in which decay and dissolution are of perpetual occurrence, in which death feeds life, and life, while it lasts, is prolonged only by dying daily. Were the problem presented to a theoretic world-maker of a world in which the external tokens and aspects of vigorous and fruitful vitality shall alternate with periods as long or longer of life fading and extinct, and renewed by infinitesimal increments, he might provide in his scheme for some fair show of blossom, fruitage and exuberant vitality; but so to embroider the veil thrown over retreating and perishing life as to make it even more gorgeously and gloriously beautiful than that whose vanished splendor it covers, would transcend the thought and dream of the most sanguine cosmogonist, yet is perfectly realized in the changing seasons that are full of God. We have not ceased to admire the thin leafage of spring, hardly less ethereal than the fleecy clouds that bend over it, when we are surprised by the outburst of bloom and the dense foliage through which the sun-beams find no passage. Summer kindles faster than we can count the days into the gold and scarlet of the autumnal forests, and the kaleidoscopic glow of the October sunset skies; and autumn seems short when we are overtaken by the hoary majesty of winter, with its glittering wreaths and fantastic masses of driven snow, its stalactites from roof and tree, and those glorious nights when the moon, conqueror and queen in a cloudless sky, is mirrored in frost-crystals pure and white as her own radiance. There is, as says the psalmist, no audible voice, but along the lyre-string (for such should be the rendering of what our translators unmeaningly call *their line*), along the lyre-string of universal nature throb ever-new strains of harmony, as if the creator willed that the tones should never pall upon the listening ear, and never cease to call forth from the soul answering tones of loving praise and worship.

Not only is there in this ever-changing and never-ceasing beauty an infinity of resource which we cannot conceive of as residing in automatic nature, there is in individual scenes and objects, if I may so speak, a mass, a quantity of beauty, which equally betokens an infinite beauty-giver. Have not many of us said that this has been the most beautiful spring and summer season that we have ever seen? But we said so last year, and have been saying so every year, unless in the case of some two or three exceptionably backward springs and rainy summers. And we have told the truth. Not that nature is more beautiful now than it has been before, but our receptivity has grown. There is always around us a wealth of beauty beyond our utmost capacity of feeling and enjoying, and the more massive we become in our quantity of being, aesthetically, morally, spiritually, the more of it we can take in, and transmute with joy, praise and love. The Creator, in a certain sense, puts his entire, infinite selfhood into whatever he makes; and with our growing apprehension of the Divine we more and more find in every separate portion and object of the outward universe the infinite englobed in the finite, the attributes that are proclaimed in the track of worlds and on the march of ages, equally manifest in the field-flower and the grass-blade. This is the reason why we are never tired of nature. I should hardly dare to live always near the works of human art that I most admire; indeed I sometimes deem it well that the ocean rolls between them and me; for, full of the Divine inspiration as they are, they yet are human works, their contents are finite, and by long and daily familiarity with them, I might in process of time take in all that they have for me; I might outgrow them, become weary of them. But not so with the panorama which not plastic nature, but a plastic God spreads around me, which grows not only dearer but even fresher with years, and to which I have every year waked many a morning as if to a new creation.

Nor is this wealth of beauty dependent on antecedent conditions that might seem to give promise of it. On the other hand, we might almost apply to it the rule of arithmetic, that I learned in my boyhood, according to which more requires less and less requires more. Where nature bears the most bleak and inhospitable aspect, there is often the most lavish display of beauty. The long polar night is made more glorious than day by the lambent flames that shoot up from the horizon, bathe the ice-fields in their genial glow, and crown the zenith with their radiant diadem. The torrid sand-waste lies, too, under heavens that transform its dreary distances into a fantastic paradise, and is studded with oases rich in living green. Wreaths and fillets of azure mist belt the bare mountain crag, and wrap its summit in rainbows. In mid-ocean, the phosphorescent night-fires, the dance and swell of the billows, the gorgeous clouds that float and rest, and cast their shadows over the face of the deep (*Ποντίων κυματών ἀνήριθμον γέλασμα*, as Æschylus calls them, in the Prometheus—not easily translatable in English, but literally rendered—*the innumerable laugh of the sea-waves*), the leap, flight and play of numberless forms of buoyant life above and beneath, immerse sense and soul in inexpressible beauty.

Now the argument from design has been atrociously misused; but for this it is none the less valid; nay, it has been overstrained, chiefly because in its legitimate use it makes so near an approach to demonstration. Mutual adaptation alone does not prove design; for prolonged juxtaposition might generate adaptation. If man could find no food but grass, he would, undoubtedly, at this late stage of his existence, have become so much accustomed to grass that it would seem made for him, and his food-taking and digesting organs would have become those of a grazing animal; for his only alternative would have been thus to feed or to die. But there are what I might call independent parallelisms where there is perfect adaptation without any possibility of mutual interaction. Thus the eye cannot have created light; nor yet can light have bored man's forehead, rounded the pupil of the eye, spread the retina, secreted the several humors, developed the lid with its fringe. No law of reciprocal causation connects the eye and light; therefore their mutual adaptation postulates a common cause in creative design. The same argument applies to beauty in nature and the aesthetic sense in man. Man creates an infinitesimal portion of the beauty that he sees. Nor is there in beauty any inherent capacity to make itself felt, for it is seen without being felt by unnumbered tribes of animated being, and *a priori* it is just as conceivable that man—rational though he be—should have taken special delight in seeing heaps of grain or stacks of hay, as in seeing green fields, verdant valleys or grass-clothed hillsides. The sense of beauty and the world of beauty have no conceivable causative relation to each other, and, together with numerous similar independent parallelisms which present themselves unsought even on a cursory view of the universe, they indicate a common cause in the creative Mind, Will and Purpose.

Still more, they reveal a corresponding attribute in the Creator—an attribute to which technical theology, which has seldom manifested any aesthetic proclivities, has not deigned to give a name, but which, whether uttered or unnamed, is felt and adored by every devout lover of nature. It is more than omnipotence, and more than infinite wisdom ; for these perfections of the Deity would have found adequate expression in the immeasurable vastness and the faultless harmony of the creation. Though akin to love, it is more than love, which might have wrought its ends in a less diversified and a less attractive universe. It bears the same relation to the aesthetic sense which giving bears to receiving, devising to enjoying, or artistical invention to susceptibility. Its source in the Divine mind must be the human idea of beauty refined, exalted, intensified into infinity.

We may then infer from beauty in the universe and the sense of beauty in man, in the first place, creation outside of any possible line of development, and, secondly, a love of beauty in the Creator, which adds traits of loveliness to our conception of his character, blends with our sense of his fatherhood, and for the true worshipper identifies enjoyment with adoration, and raises the aesthetic sense into a religious faculty.

We now ask, what is the relation between beauty in nature and what we term moral beauty? There is certainly between them not mere analogy, but literal identity. The morally beautiful is that which on the retina of the inward vision forms a picture on which the outward eye would look with delight. As the beautiful in nature is more than the useful, so is the beautiful in character and deed more than the good. Straight lines and sharp angles do not look beautiful to the eye, nor do they seem beautiful to the mind. A character may have inflexible rectitude, literal veracity, habits conformed in the smallest minutiæ to the rule of right, and it may have our entire approval, our sincere, though cold admiration, yet may be wholly destitute of beauty. The skeleton of goodness, hung on wires, which we sometimes see where conscience is unrestingly active, and imagination torpid even to death, repels sympathy, and makes virtue unlovely. A heaven thus peopled would seem no Paradise. Grim piety may be of subjective worth to the individual soul, but its objective value is represented by a negative sign. On the other hand, there is a beauty of holiness in which are all the hardier muscles and sinews that do the heavy life-work, but filled in and rounded out in perfect symmetry, with lines that seem continuous, so gracefully does curve melt into curve. Such are the characters that wear an aureola of sainthood, recognized not by this or that sect, but by all the good of every name, the Fenelons, the Oberlins, the Florence Nightingales, those whose names the heart throbs in hearing, those who ceased not to shine on earth when they became stars in heaven. It is beauty that makes their sainthood as precious to men as to God. Without it they might still be diamonds, but diamonds in the rough, of which only the expert can know the value; but God, when he makes up his jewels, polishes the precious stones, cuts facets on them for the multiple reflection of his own ineffable beauty, and sets them in the purest gold.

As in character, so in individual acts, there is goodness without beauty, and there is goodness that is intensely beautiful. Pity without kindness, that is, the feeling of kindred, may go about doing good, and the cold formalism of its almsgiving may chill and starve the souls of those whose bodies it feeds and warms; while kindness may be almost empty-handed, and yet for the loveliness of its beauty blessed by the eye that sees and the ear that hears. There are right and virtuous acts performed from a profound sense of duty which we behold and contemplate without emotion; there are other not unlike acts into which heart and soul are put along with mind and strength, and these seem to us as beautiful as they are good.

Still further, in theology, that is, the science of God, we mark the same distinction. There are dogmas which awaken no feeling, which leave the aesthetic sense unmoved; and there are others in which our belief hardly waits for evidence; they are so beautiful that we cannot but expect to find them true. There are bodies of divinity so termed, no doubt, because without soul, which present doctrines that we cannot call in question in such a way that we believe them as we do the multiplication table; there are appeals from heart to heart in which those very same doctrines, glowing in divine beauty, are urged upon us with demonstration of the spirit and power from on high.

In fine, in the whole realm of things unseen, there is a field for the exercise of the aesthetic faculty, and it is the same faculty that takes cognizance of beauty in nature; for it is a pictorial faculty; it makes to itself visual, if not visible likenesses of what it admires; with the requisite skill of hand it would put them upon canvas or into marble. The feeling is, if I may so speak, extra moral. It cannot, indeed, attach itself to what is not morally good, for what is not morally good, however fair in outward seeming, is never beautiful to the inward eye. But it can equally little attach itself to goodness in the abstract, or to goodness apart from certain scenic traits or properties in its manifestation. It is a faculty which bears a large and a beneficent part in human character and conduct. It is apprehensive and judicial as regards the things to be believed. It gives to example all its efficacy. It is a motive power with every well-constituted mind, prompting those whom it inspires to be not only and barely good, but to make their lives beautiful no less than good. Can religion dispense with it? Can we conceive of a true religion which should not recognize it, address it, utilize it, satisfy its cravings, give wing to its aspirations? And if there be a religion which does this, have we not, so far, reason to regard its claims as authentic and valid? Nay, can we conceive of a religion the elements of which are inspired or revealed by Him who in His omniscience knows all that there is in man, which yet should leave this aesthetic sense unappealed to, unprovided for, ignored?

Nay, leaving out the idea of special revelation, which we well may, for it is that which is that is revealed; and if there be, as I believe there is, a revelation, natural religion, that is, the eternal being, will, law, love and purpose of God, must of necessity be the subject-matter of revelation; leaving out then for the moment the idea of express revelation, must not religion in its very essence be in relation with the aesthetic sense in man, no less than with reason, will and the purely intellectual faculties? The lack of this relation is the defect in those religious systems that bore the now almost obsolete designation of deism, in what now affects to call itself theism, and in those rationalistic theories that take the name, while rejecting large portions of the contents, of Christianity. Their show of pure intellectualism would give them a valid aspect, were man pure intellect; but their entire preterition of so large and influential a factor of actual human nature as the aesthetic faculty is a token of their deficiency and inadequacy. The Christianity of the New Testament commends itself to our acceptance by its recognition of the aesthetic element, by the food that it furnishes for this appetency of the inner man, by the pictorial aspects in which it presents to the imagination concrete ideas in lieu of abstract conceptions; yes, ideas in the literal sense of the word, images of invisible and spiritual things which so shape themselves to the thought that in certain exalted conditions of consciousness, in lonely and prolonged meditation, in great crises of experience, and in the luminous shadow through which the Christian emerges into the pure light of heaven, they are as veritable visions as if they were beheld by the bodily eye, more real and substantial, we cannot doubt, than the things which are literally seen.

Here we must first take note of the Christian representation of the Divine character, blending a purely spiritual philosophy with an anthropomorphism which makes its direct appeal to the imagination and the aesthetic nature. Christ, more distinctly and emphatically than any philosopher out of his school, proclaims that God is a spirit, and there is not a conceivable attribute of pure, invisible, eternal, infinite spirit, that finds not its clear and full statement in His teachings. Had He stopped there, as Plato did, He might have founded a small, select school of monotheists, who would have discussed the Divine attributes as dispassionately as they would the theory of the sphere or the triangle. But it is under human aspects and relations that Jesus brings God near to the human soul, as the Father, listening to prayer, guarding the sparrow's flight, clothing the lily, unwilling that the least of His children should perish, going forth to meet with His embrace the penitent prodigal, filling His house with merriment when the lost son is found. We well know that there is in all these representations that which falls immeasurably beneath and short of infinity ; but for that very reason the finite can take it in ; the imagination can give it shape, the aesthetic sense can feed on it to fulness, and there can go up from the heart loving praise and thanks and trust, instead of the chill-stricken awe with which one would contemplate the abstract conception of an infinite God. Jesus, indeed, well knew what was in man when He spake, as

He always did of the Father, and presented Him as a personality which we can take to our hearts as if in human form, to our child-hearts, as if it were the presence and the loving ministry of a parent, whose face we see in all that is beautiful in the creation, whose voice we hear in murmuring breezes and flowing waters, whose arms enfold us in all the blessedness of home, and social intercourse, and happy life.

In miracle, also, this same appeal is made to the aesthetic and imaginative faculty. I know that it is not unusual to discredit, even to flout at the evidential worth of miracles, as themselves rather needing proof than capable of giving it. But it is not in this aspect, as it seems to me, that miracles are precious to us, who have the greater than miracle in recorded Christian experience, and ought to have the still greater in our own experience. I like to look upon miracles as pictorial representations of God's universal providence. As an abstract truth the Divine providence is easy of statement, but hard of heartfelt recognition. We believe in the supernatural. Indeed, how can we not? Our own finite human wills are supernatural, have power over nature, not, indeed, to supersede natural laws, but to arrest, change, direct their working. Can we doubt that the Infinite Will can do and does the same? Yet we feel this as we cannot otherwise feel it, when the omnipotent arm is laid bare to human sight and in authentic story. In contemplating such manifestations of a paternal omnipotence as have their record in Holy Writ, imagination becomes the handmaid of faith; the aesthetic delight with which we dwell on these scenes inspires a glad consciousness of an unseen, yet perpetual ministry of like power and love, not only in our crisis of special need, but in our daily walk, lying, as it always does, on the margin of peril and close under the shadow of death.

It is, indeed, impossible to over-estimate the religious efficacy and worth of the aesthetic faculty and of the imagination which it perpetually feeds. The forms which we summon to our thought in our seasons of reverie give shape to our volition and direction to our activity. Hence the need that religion, as presented for human belief, should take strong hold on the imagination. This need is richly supplied in the life of Jesus Christ on the earth. That the incidents of his sojourn in this world have the precedence of all else as the inspiration of poetry, the burden of song, the soul of art, that they are full of scenes that float in unequalled beauty before the inward vision, and that they perform this office at every stage of culture, for the rudest no less than for the most refined intellect, is among the surest tokens of their authenticity. I was present not long ago at a concert of sacred plantation-songs, the legacy of slavery, given by a band of negroes. The songs were full of the gorgeous imagery of which Christ is the centre and the inspirer; and I felt that it was among the strongest proofs of the divinity of our religion that it should furnish pictures of its own sacred things and its own blessed Lord and Saviour, that could have filled with pure thought and lofty aspiration minds that else had wallowed in utter squalidness, could have lifted them from the house of bondage into a region of experience in which they might be the peers of angels, and energized them with might from heaven for toil and hardship that seemed beyond earthly relief and solace. The realistic, pictorial element in those rude melodies was precisely what they needed. A religion which could not have supplied it would have been of no avail for them, and, still more, would have lacked an essential evidence of its source in the bosom of the infinite Father, who has taught us that all souls are his.

Nor are these aspects of Christianity any less precious to minds of the highest culture. There are times of trial and of grief when mere words, even of eternal life, could not reach the hearts; when consolation and hope flow for us from those scenes and events of the Divine life on earth, made almost visible through the presentific power of the aesthetic imagination, to which there is no past or future, but an eternal now. Therefore is it that we dwell so lovingly on the concomitant circumstances of the work of power and love performed by Jesus on the earth. We can conceive of their having been wrought simply as acts of delegated omnipotence, silently, coldly, dispassionately, and in that case they would have made all the appeal to the intellect that they do now, but would have left the heart unmoved. They owe their intense power to their Divine beauty, to our Lord's tender sympathy, to the heart that bears the griefs, carries the sorrows, drinks in the tears of those to whom He ministers. Thus in the raising of Lazarus, as we read in the narrative, we reach the climax of majestic sweetness and sovereign love before the sad procession arrives at the tomb, and it no longer surprises us that such a voice the dead should hear and live.

There have been ages when the everlasting truths of religion have retained their intenerating, restraining, elevating influence, in no wise through the intellect, but solely as enshrined in consecrated art, breathing in holy song, floating in clouds of incense, imaged in gorgeous rituals.

I have spoken of the transcendent beauty that inwreaths the miracles of our Lord, but not them alone. As His whole life is spread out before us in its gentleness and sweetness, its compassion and mercy, its self-forgetting sacrifice, its unremitted care for the welfare and happiness of the ungrateful and the sinful, we have not a mere teacher and exemplar, but one whom to know is equally to admire and to love. We cannot become familiar with His walk among men, and with the heart whose pulses are all laid bare to our view, without our souls being suffused with the radiance of such beauty as was made incarnate on earth to give us the foreshining of heaven. It is, indeed, like the beauty of nature, an infinite, exhaustless beauty. Like the flowers and the stars and the glowing sunsets and the sparkling waters, it is the more beautiful to us the longer we live, and in old age we can read the record for the hundredth time, and it shall still seem fresh and new.

The same spirit of beauty pervades the Scriptures taken collectively, and is one of the salient tokens of the Divine element in the sacred record. The volume, were it not set apart by the reverence of ages, would set itself apart by its own claims on the aesthetic nature—by its wonderful diversity of picturesque scene and incident—by characters that command our admiration by the beauty of their holiness—by situations which present that beauty in its most winning aspects. I lay no stress on any formal theory of inspiration, for there is no rational theory which will embrace Genesis and Job, Isaiah and Jonah, Nehemiah and Esther, the chroniclers of the Old and the evangelists and apostles of the New dispensation, only superstition and prescription could ever have held such a theory together. But we Christians are agreed in regarding the Bible as an authentic record of man's religious history so far as Divine revelation has borne part in it, and thus as the world's religious manual for all time, and as containing precisely those writings which have been kept under the guardianship of the Divine providence for the instruction of the human race. Now suppose wise and good men had planned a Bible for this especial purpose; it would have been a book or a series of books that few would have wanted to read, except those who needed it the least—a compend of doctrine, a code of precepts, a dry abstract of history. But under the Divine providence we have a Bible that presents as broad a diversity of beauty, in poetry and prophecy, in narrative and experience as we behold in an autumnal landscape when every cloud and every tree has its own peculiar tint and special charm. The fitly educated child takes with him from this sacred book for his life-long treasure more and more varied beauty of thought and scene, event and character, than his best reading for scores of years afterward can furnish. Think for a moment how art has drawn from it. Were you to destroy the great pictures for which it has given the theme, you would leave the galleries of Europe no longer worth visiting. Lucian gives an elaborate account of a family of centaurs—the details by no means of pure taste—as a master-work of Zeuxis. The theme was probably as rich and suggestive as the Greek mythology could furnish, and it could hardly admit of being idealized. The subjects of Christian art do not need growth by idealization; in no more than their proper form and features they have that which genius in vain attempts to overtake and embody in the fulness of its beauty, but can only suggest what at the best finds inadequate representation on canvas or in marble. Here, again, we have what to us is infinite, that is, transcending the finite in conception and execution—this alleged record of revelation furnishing the only themes which give the artist the soul and the vision of a seer, and elicit from him creations before which, as in the presence of the Sistine Madonna or Thorwaldsen's Christ, one might kneel and worship as in a forecourt of heaven.

But it is time that I relieved your patience. Permit me, then, in closing, very briefly to recapitulate the ground which I have endeavored to cover in this lecture. The law of evolution accounts neither for beauty in nature nor for the sense of beauty in man. They are tokens of a creative mind, and still more, of a mind in which resides the love of beauty that has outrayed itself in the universe and incarnated itself in the soul of man. The wealth of beauty, exceeding, overlapping, transcending man's utmost receptivity, and therefore to him infinite, bears the type of the infinity of resource in the Creator. The same sense of beauty which finds its gratification in things outward attaches itself to conceptions purely intellectual, to ideas, or objects perceived only by the mind. The appetency for the beautiful in thought is a no less essential element of man's intellectual nature than is the receptivity of beauty in things visible to the outward eye. Religion, that is, the science of divine things, cannot ignore this appetency. The so-called religion that ignores it lacks tokens of genuineness as a science of God's relations to man. If God has really revealed Himself to man, it must be in modes and forms that should not have left the aesthetic sense unprovided for. Christianity, among other tokens of its Divine origin, ministers largely to this sense. Its representations of the Divine character, the miracles alleged to have attended its advent, the salient events of its primitive history, while they meet the deeper wants of the spirit, satisfy the aesthetic nature, and thus lay and keep a strong hold on the imagination which possesses a large controlling power over the will and the life. The person and character of Jesus Christ are transcendently beautiful. The Scriptures which contain His Gospel and the history of its development and foreshining in the antecedent ages, are pervaded by the same spirit of beauty. These characteristics of Christianity and its records were to have been anticipated *a priori* in a Divine revelation, and, to the full extent of their evidential capacity, their existence authenticates Christianity as Divine.

THE PHILOSOPHY OF BELIEF VERSUS DRIFTING.

[A Lecture delivered before the American Institute of Christian Philosophy, at Richfield Springs, August 28th, 1883.]

BY RANSOM BETHUNE WELCH, D.D., LL.D.

Professor in Auburn Theological Seminary.

I PROPOSE:

First, To trace the Philosophy of Belief, and ascertain some of its permanent principles.

Secondly, To consider the present state of distrust, and point out some of its causes and correctives.

Trust is normal and instinctive. Why this is and should be so is quite apparent. Awaking into life as we do, trust is necessary. The poet's answer to the poet's question, "What am I?" though misapplied to the mature man—the well-trained poet-laureate—is true of the untrained child:

> "An infant crying in the night:
> An infant crying for the light:
> And with no language but a cry."

Necessary, instinctive, normal, trust is also universal. The mutual relation is everywhere the same. It is the attitude of a human soul, but of an infant human soul, toward an environment of reality—reality, however, not yet known, but to be known. The necessity for trust becomes more apparent not only because of the humble entrance upon human life but especially because of the capabilities of the infant soul. Together with these capabilities of the human soul there is the insatiable appetency for the unknown and the invisible. Accordingly by the very discipline of life, from the first, we are trained to trust.

Emerging from instinctive infancy to reflective, trust is already a habit as well as a necessity. This is well and wisely planned, for the demand is greater than at the first. We gradually grow into the consciousness of a larger environment. We look about the nursery and beyond. The enlarged surroundings are new to us. All untried, they challenge our attention and solicit our acquaintance. Are the surroundings real? We trust our senses. We cannot otherwise enlarge our acquaintance. We cannot, indeed, distrust. Surrounding realities compel experiences of pleasure and of pain. Nature has been our teacher, perhaps hitherto unconsciously to us; but is now consciously our teacher, thorough and constant—reminding us ever of our dependence—ever stimulating our trust. Daily, the field of observation enlarges. Daily, belief is amplified and confirmed.

* * * * * * *

But belief—this very belief which we have traced as a fact and a philosophy—belief pertains to the believer. It exists and is found there—not in surrounding nature, but in the soul, the believing soul. It is deeper even than our senses and our sensations. These lead to it, but do not possess it; and, cannot exercise it. Our material environment—physical nature—in challenging our attention and stimulating our trust has awakened another consciousness in the observant soul—the consciousness of self. This is a consciousness more profound and persistent than the consciousness of external things. So profound and persistent is it that although sight and hearing, touch and taste—every physical sense—were closed in reverie or locked in sleep and the external world excluded, the consciousness of self would continue, and memory would survive, and fancy and imagination would be in ceaseless play. Bridging the chasm of noon or night, the soul would recognize its conscious identity compelling belief in a reality more profound and persistent than the material universe. To this assured belief not only does material nature awaken us and increasingly train us as we know more and more, but to this the awakened soul trains itself by growing experience and by the ceaseless reflection that, in order to know, we must be; and we must be knowers.

Already we have found a philosophy of belief in the soul's reality and identity—the soul's reality and identity as different and distinct from its environment; a belief which neither speculation nor skepticism can shake; a philosophy of belief, unified, consistent, constant.

It is worthy of note that, while we are strangely but thoroughly being trained to believe that the same material universe and only one environs each and every observer; we are, at the same time, as strangely and as thoroughly trained to believe that the observant souls are multiple, diverse, individual.

Thus we have inductively surveyed a vast range of belief concerning fundamental realities interacting upon each other yet most dissimilar in their nature, their attributes, their phenomena; a belief in profound truths apparently discordant yet really harmonious; a belief as readily reached and as firmly held by the peasant as by the philosopher.

But our inductive survey takes a larger range. Aptly has it been said, "Look into thine heart, and write." Here a new class of facts emerges into human consciousness. Conscience imposes moral obligation; enforces moral obligation by its approval and disapproval, now imparting blessedness and rest and peace, and now inflicting remorse and misery. This is inwoven in our spiritual constitution, and must continue, and attend the rational soul wherever it be; and, even though it be alone.

But each, also, holds his neighbor subject to moral obligation; applauds him for the right, blames him for the wrong. So each for himself believes in moral rectitude, and tries himself by a moral standard according to his best conception; and, tries his neighbor by the same standard. The individual and the public conscience attest an ethical belief, and an ethical standard. Literature, Law, History everywhere and when confirm and illustrate this ethical belief and the ethical constitution of man.

But while this is everywhere predicated of man, it has been nowhere seriously predicated of the brute or the stock or stone. Yet, if man were a mere product of nature, held not by ethical law but only by physical, merit and demerit, right and wrong would be quite impossible and inapplicable.

But further, while these are possible, and are applicable to man, and have ever been thus applied even to the extent of all legal sanctions; morality itself would be fickle and fictitious, unless conscience could point to a higher authority—even God. Thus only can ethics have significance; and conscience impose obligation; and personal rights be possible. In this survey, we find valid data for the philosophy of belief in ethics in its widest range; and moral law is seen to have its only real warrant in God.

But man is religious as well as ethical. This is admitted on all hands to be the profoundest and most ineradicable element in human nature. Religion, however, has personal relation. It cannot exist among things. It cannot fix upon an inferior creature. Much less can it be, and fix upon nothing. Religion is personal relation toward a superior—trust in the supreme according to the highest conception of the soul; dependence upon the independent; reverence for the holy; love for the good and the perfect—in a word, it is trust, dependence, reverence, love, worship toward God.

Ethical and religious facts are abundant. The philosophy of belief in religious and ethical realities is clear and conclusive.

From this rapid but comprehensive induction, we are ready now to formulate some permanent principles in the Philosophy of Belief:

Firstly, That we trust our senses in communicating with our environment.

Secondly, That we trust our consciousness in revealing the facts of perception.

Thirdly, It is on this principle in the Philosophy of Belief that we arrive at the knowledge of the external world or universe.

Fourthly, That we trust our consciousness in revealing the facts of intuition.

Fifthly, It is on this principle in the Philosophy of Belief that we arrive at the knowledge of the self and its phenomena—*i.e.*, the individual person.

Sixthly, That we trust our consciousness in revealing the perception of external activities, specially, of combined physical and mental phenomena, as in persons like ourselves.

Seventhly, It is on this principle in the Philosophy of Belief that we arrive at the knowledge of humanity, viz., by its manifestions.

Eighthly, That we trust our consciousness in the combined revealing of all that we have and all that comes to us—subjective and objective—intuitive and perceptive, *i. e.*, in the light of all our seeing.

Ninthly, It is on this principle in the Philosophy of Belief that we arrive at the knowledge of God, viz., by His manifestations.

Stopping only at ultimate Unification—which is the crowning principle in the Philosophy of Belief, as it is the ceaseless desire and impulse of Science—we focalize all trust in the Supreme; we retrace all effects to one primal, eternal cause. We believe in God.

By philosophic necessity and in philosophic order, we advance to this one, divine, eternal, infinite, primal, personal Author of all things. We believe in God, not in Gods many or Lords many; but, by philosophic Unification (to say nothing, yet, of inspired revelation), we believe in one, only living and true God. Thus Atheism and polytheism are both ruled out.

Polytheism is ruled out by the very demand of philosophic Unification—ruled out even by the demand of Scientific Unification.

* * * * * * *

Firmly established in this central, vital, divine belief, the Philosophy of Belief conducts us forth into the amplitude of this comprehensive reality, viz., the Divine being; His attributes; His eternal and all-embracing plan; His wonderful works; His mighty and all-pervading providence. God has revealed Himself in the physical creation and in His rational creatures; will He reveal Himself *to* His rational creatures? How can it be otherwise? If He reveals Himself, it will be in the way of truth which the rational creature can appreciate and believe. It will be a Divine Revelation with Divine credentials to the message and the messengers. It will be adapted to human wants and, so, to human immaturity, yet, by the very adaptation, meeting the human want and relieving human immaturity—until men be divinely trained; and, "we all come in the unity of the faith, and of the knowledge of the Son of God, unto a perfect man, unto the measure of the stature of the fulness of Christ"—until it be said—We believe in God; and, believe also in Christ.

But according to the Philosophy of Belief, the very brightness of the divine glory and the express image would not be, at the first, revealed fully, but progressively, like the dawn and the daylight advancing to the highest noon. So "the Book" has been preparing through the intervening centuries, with time for type and prophecy and fulfilment and antitype, giving us the more sure Word of prophecy unto which we do well to take heed, as unto a light that shineth in a dark place, until the day dawn, and the day star arise in our hearts. So the revelation has been advancing until, in these last days, God has spoken unto us by His Son, who is the brightness of the Father's glory and the express image of His person—the Divine Word which was in the beginning—which became flesh, and dwelt among men—who is the Immanuel, God with us—in whose hands as mediator, all things are ordained. Thus we have the Written Word and the Living Word—the Scriptures and the Christ—meeting in mutual attestation, and combining to teach the ways of God to men.

Here are realities at every step challenging our trust; and, according to the Philosophy of Belief, training us in its exercise until it culminates in Christ, in Whom believing we are saved. Christianity as divine and with a divine mission for the world stands alone with Christ; and the Scriptures verified and vitalized in him cannot be broken.

Such is a rapid sketch of the great realities which demand our belief and challenge our growing acquaintance that believing we may know—opening before us the way into the realms of all knowledge, leading us forth from our infancy, if we are docile, into the belief of the truth; and, if we are diligent and dutiful, rewarding us with the growth and light and joy of life.

II. THE PRESENT STATE OF DISTRUST—SOME OF ITS CAUSES AND ITS CORRECTIVES.

Yet our times it is said seem "out of joint." There is a great company of believers; but there is, also, a growing number of unbelievers. There is apparent indifference and despondency. If there were only discontent it could be more readily reached and removed. Discontent is, at least, a sign of life. It may be met, satisfied, corrected. Discussion might match and overmatch discontent. Discussion should conduct to better conclusions, and thus lead to content, and restore hope to our times. But indifference indicates disregard of truth, and betokens spiritual deadness fit only to fall into any movement and float!

There is a clamor of voices—scientific and sophistic, gnostic and agnostic, skeptical, philosophic, and Scriptural; some assertive, some inquisitive, but all discordant—they are confused and confusing.

Confessedly, there are many individual minds, if not whole communities, that are perplexed, discouraged and of all faith have made shipwreck. Carelessly, anxiously, or despondently the question is raised, Are we drifting? We reply—the question is by no means unimportant, in whatever mood it may be asked or whatever be the range implied—whether temporary or absolute.

By every motive which concerns public and personal welfare, we are challenged to discriminate sharply, to ascertain which of all the voices is authorized and trustworthy. If we are to abandon our moorings and drift, or if the bonds are already snapped, it is high time to know it and prepare for the worst. If, on the other hand, we are advancing, we should take our bearings, and reassure ourselves of the direction and the guidance.

Doubtless there are those who desire it, and hence assume that we are drifting; some impelled by mischievous, some by misguided motives.

There are those who are laboring to achieve it—some reckless of consequences; some idle hands with nothing else to do, and readily tempted; some disappointed, some ambitious leaders; some working with mad frenzy, some with deliberate malice; some by instinct and habit disorganizers, ever hostile to settled order, ever intent upon the work of destruction; some chilled by negation and grown desperate, faithless at once and hopeless, who strike alike at friends and foes.

Among the causes which conduce to this state of things we note in passing, some which do not strictly lie within the philosophic survey, which, however, exert no little influence in this direction.

As one of these may be mentioned, the Newer Criticism (whether higher or lower), often partial and arbitrary; sometimes just; sometimes the mere fancy or caprice of the critic; sometimes superficial and unauthorized, hastening toward conclusions at the spur of vanity or ambition. This is to be corrected by better scholarship, more exact exegesis, calmer judgment, and more thorough research, in a word the proper correction is, more vigorous criticism.

As another of these we mention, the New Departures in Theology (for they are not one, but many). To correct this, not a policy of repression is demanded, but proper theological adjustment according to the one divine standard. The answer is, "To the Law and the Testimony."

Another of these is, Perverted Christianity which would exalt unwritten tradition to equal authority with inspired Scripture, ordaining Mariolatry, secularizing the Church, arrogating to itself infallibility, grasping and abusing authority. Such perversion dishonors Christianity, while it produces reaction and distrust. The correction is not philosophic but moral, viz: Reformation.

And still another of these which we mention is, Growing Secularism or Worldliness—prizing gain above godliness. The corrective is not philosophic but practical—the cultivation of spirituality in character and conduct—to "seek first the kingdom of God and his righteousness."

Most of these causes, however effective they may now seem to be, are, in their nature and influence temporary.

For example, it is not abandonment of the Book, but criticism seeking to find the real substance and significance of the Scriptures. It is the New Departures *in* Theology, not from Theology. It is Christianity *perverted*, not rejected.

Christianity, Theology, the Scriptures are not discarded but recognized and believed.

But there are other causes which more properly come within the range of Philosophy. Of these we name—Materialism, Agnosticism, Idealism, Pantheism, Deism, while Materialism and Agnosticism, because of their present prominence, challenge our chief attention. From the former to the latter class of causes Secularism marks the transition—secularism at once earthly and sensual, cherishing the lust of gain, of power, and of pleasure. Secularism practically claims that we have advanced to the era of Materialism; while Materialism theoretically assumes to be philosophic and profound. It adopts some of the principles of belief to which I have already referred, and builds upon them, viz.: trust in perception; belief in the external world; the reality of matter; the attestation of all our physical senses; the correlation of forces; the conservation of energy; the great principle of philosophic Unification, etc. From these principles, which are valid, Materialism leaps to the invalid conclusion that, All is Matter, and Matter is all; "that the human mind itself—emotion, intellect, will, and all their phenomena—was once latent in a fiery cloud" (Tyndall, *Fragments of Science*, p. 163); that, "God is the sum of all forces; so also, therefore, of all Matter." (Hæckel, *Generelle Morphologie der Organismen*, Vol. ii., Book viii., Chap. 30). The chain runs thus: Mind—Brain—Matter—Force (but all force is one)—God. (See Wm. Jackson's *Prize Essay*.)

All these permanent principles of belief and so of certitude admitted by Materialism, we have already found as valid, *together with many others of a different kind and higher type*. Thus, we have already barred the claim of Materialism, as being a theory narrow and partial, and by philosophic authority remanded it to its place not among persons but among things. Indeed, to become *Monistic* ("*The Monistic philosophy*, or *philosophy of Unity*," as Büchner and Hæckle style it) it would degrade persons to things—Mind to Matter—and God to Nature. Facile as well as false in its manipulation of half-truths, it readily employs the terms of Pantheism, of Idealism, or even of Theism. Actively it inculcates its half-truths. Clamorously it proclaims its speculations as demonstrations. Pretentiously it claims that the trend of advanced thought is in this direction which, in certain circles of "high form" but not of hard thinking is affectedly styled the only fashionable and satisfactory direction. Forsooth, in such circles the objective, the physical, is magisterially asserted to have complete monopoly whether of fact or of philosophy. On the other hand, the subjective, the metaphysical, is no less magisterially ruled out and rejected. In order to serve its own partial purpose, viz., that its belief in half-truths embraces the whole, Materialism would suborn the physical sciences, and make the hypothesis of Evolution Atheistic—Atheistic only.

For it is proper to remark, that the hypothesis of evolution need not be Atheistic. Both philosophy and theology may allow a theistic hypothesis of Evolution, regarding Evolution only as a Method which inductively leads us back to the divine original, and which proceeds according to a law divinely imposed—a theistic hypothesis of evolution which rules out such materialistic assumptions as "spontaneous generation, and the eternity of matter." As I have said elsewhere,* I repeat: We may admit an evolution originated by a divine creator, guided by a divine intelligence, and governed by a divine purpose. Oracularly we are told from the sensational platform, pulpit, or press that the theory Evolution has come in with the sweep of revolution; that ideas of God are exploded; that ideas of creation, of mind, of morals, and of moral government are modified if not reversed; that conscience is deducted from natural history, and ethics evolved from experience, and morality reduced to mere utility. Conscience, thus, would be solely prudential, guided only by experience of the greater gratification; and, as the survival of the fittest, might would be right. The morality of the brute would thus be the same in kind as the morality of the man, with no possible distinction but the degree of gratification which, perhaps at times perhaps oftentimes, might preponderate in favor of the brute.

By such a theory, however much of wrong and woe and evil there might be, it does not appear that sin and guilt could any where be charged against the evil-doer, since man, like the brute, would follow in the line of greatest gratification, and follow thus by necessary law. Conscience itself would upbraid him if he did not thus seek his own selfish gratification; if, indeed, according to this theory even the name of conscience would remain.

However much of evil and wrong and woe there might be, it does not appear by this theory what possible place there could be for a Saviour. On the other hand, Pessimism supplementing this theory of atheistic evolution asserts an omnipresent will, which omnipresent will is, however, *impersonal*, resistless, malignant; a power devoid of love, devoid of liberty, *a fortiori* devoid of help or hope for man: on the contrary, it is actively promoting evil, wrong, and woe; malignantly oppressing the human race, with no relief from superhuman love, intensified rather by superhuman hate! Revolting as this picture is, it is but a weak representation of Pessimism as taught by Schopenhauer and Von Hartmann and their disciples. Such teaching can but cast a baleful shadow upon every mind and every community that accepts it, and produce fatal discontent with life. Combining with atheistic evolution, as it is ready to do, it becomes most disturbing, poisoning life and literature, unsettling hope and happiness.

---

* "Faith and Modern Thought." p. 40.

If the "Hellenism" of very recent "Literature and Dogma," was proposed by Mr. Arnold as in any way an antidote, it has proved a failure, causing scarce a ripple on the surface, and caught by the turbid movement, has itself increased the commotion. This confluence seems the less surprising when we recall the admission of "Hellenism" that there must be some external help—"Some power that makes for righteousness;" whose name and nature are described by this lofty negation, "The eternal not-ourselves that makes for righteousness." This, by the author's careful explanation is neither person nor thing, but, "simply the stream of tendency by which all things fulfil the law of their being." ("Literature and Dogma," p. 61.)

* * * * * * *

Modern materialism with its fearful brood of errors can be barred only by the principles of belief which we have traced; but by this valid Philosophy of Belief it can be effectually barred. We try it by these permanent principles; and, in this higher court of appeal, condemn it as partial in fact and false in philosophy. We cannot finally drift in the direction of materialism. We are encircled by a larger system and held to our course by other and nobler bonds of truth.

It would be interesting, did time and patience permit, to retrace the history of Materialism, to detect its looseness, its contradictions, its inherent weakness, its irreconcilable disagreements on the primal questions, What is Matter? Force? Life?

Idealism we pass by, since it is an error at the opposite pole to be answered like Materialism as a partial truth and false in claiming to be the whole; and, we pass it by, also, because just now the disturbing element is materialistic rather than idealistic.

For similar reasons we devote no time, in this paper, to the examination of Pantheism and Deism. It remains to speak of Agnosticism.

This seems to me more profound in its reach, and at the same time more dangerous and disturbing than Materialism or Idealism.

It adopts at least something from the Philosophy of Belief, and on this it builds. It cannot advance a step; indeed it cannot be as a theory without assuming at least one of these permanent principles of belief. It trusts appearances—*i. e.*, believes perception so far forth as reported in Consciousness; and hence knows phenomena—but *phenomena only.*

On a phenomenal basis it constructs a phenomenal theory of matter and of mind—of the Universe, Man, and God—making each and all to be phenomenal or apparent to us, and apparent only. Philosophically it reaches beneath materialism and would put in doubt the reality of matter. It reaches beneath Idealism and would put in doubt the reality of mind. It reaches beneath Theism and would put in doubt the reality of God (Truth must logically and inevitably share the fate of Being, and the reality of Truth be put in doubt)!

To the question—Can we know the External World—the Universe? Agnosticism replies—Not as a reality. Can we know ourselves or God? The reply is—Not as a reality. We cannot know anything as real. We can know only phenomena or appearances. Thus agnosticism would sever strand after strand of certitude, and emasculate the whole Philosophy of Belief leaving us without anchor or anchorage, sending us forth to drift with cable sundered and lights extinguished on a dark and raging and limitless sea.

It is neither illogical nor extravagant to say that, the philosophic feeling correlated to such an agnostic state of things or rather, phenomena, would be indifference, or despair. One need not look abroad to see how this tendency is being realized.

Now if it be said, as it is by agnostic writers and teachers, that we really know nothing; and, then, that this conclusion is logically deduced from agnostic premises, we reply—if the logic be correct, the premises must be faulty, for the conclusion is false.

If then it be said, as it is, that we do know appearances or phenomena but nothing more; the reply at once of the peasant and the philosopher, the reply admitted by Herbert Spencer, is a sufficient refutation—there cannot be appearances without something to appear—something to produce the phenomena.

But more than this is valid, and more than this should be included in the refutation: The very *trust* in the *senses*, the very *belief in consciousness* which reports the perception carries us beyond the agnostic conclusion to a reality which produces the phenomena. This we believe and therefore know with certitude as real and valid as we believe and therefore know the phenomena. This belief and certitude we have already found and demonstrated, in the Philosophy of Belief, as existing in the individual and the public mind in reference both to the external and the internal world—matter and mind—the self and the universe.

But further, these phenomena (of belief and of certitude) are as prevalent and valid certainly as any of the varied and variable phenomena which are so well known by the agnostic. Hence, again, we say the agnostic conclusion is ruled out as false. Thus throughout the vast range of valid belief and of consequent certitude (material, mental, moral—human and divine) is agnosticism condemned by the Philosophy of Belief as untenable.

And now, if we may be permitted to linger upon this invalid and vicious system of Agnosticism for a moment beyond the cumulative refutation already given, we would match logic with logic, to show that this theory is untenable, even on the very ground of the agnostic, *e. g.*, in reference to the knowledge of Self. It is said, "The very cognition of Self is impossible; for if the object perceived is Self, what is the subject that perceives it? Therefore we cannot know ourselves. Therefore self-knowledge is forbidden by the nature of thought." We reply—Not only is the knowledge of Self as existing, affirmed by the individual consciousness, and by the common consciousness of mankind; *it is necessitated by the very laws of thought.* The primary law of thought is the recognition of existence—the existence of the thinker and then of the act of thinking. There cannot be an act of thinking without a thinker—a real mental effect without a real mind as a cause producing it.

Again, the language employed, the very term *cogito* obeys and illustrates this law of thought. The logical statement of the term is, *cogito—I think*—I *am* thinking.

Again, this appears in the first and simplest judgment which the child or the man can make, *e.g.*, I see, I feel, I hear—I *am* seeing, I *am* feeling, I *am* hearing.

So the laws of thought, of language, and of logic confirm and illustrate this permanent principle in the philosophy of belief—the principle of reality.

By the law of language, then, and the law of logic, and the law of thought, by the common consciousness, and the individual consciousness, we are compelled to this certain conclusion—the belief and certitude of Self as existing, thinking, acting—*the actor and the acting conjoined yet distinguished in the same cognition*—I am thinking. But farther in regard to *objective reality* *or the Not-Self*, the laws of thought and of logic (as well as the facts of consciousness) bear us to inevitable certainty: that there cannot be thought without content; that in every thought there should be implied a thinker, a thinking, and a theme; that while knowledge begins in a conscious mind, this is also the *percipient* and so *recipient* mind. Thus we are borne by the laws of thought to objective realities. There is a law of things, making them subjects of knowledge to the percipient mind, constituting definite, mutual relations between the knower and the known. There is the conscious recognition of real external phenomena, in a real external world—the same real world for all knowing minds. The phenomenal and the substantial are conjoined inseparably. Both are real, and are real subjects of knowledge.

Agnosticism is not only condemned to self-adjudged silence (as a know-nothing theory), but it is refuted and exposed.

From these laws of thought and of things we cannot divest ourselves. Everywhere they attend us, to guide, to assure, to hold us. Hence we cannot, if we would, finally drift in the direction of agnostic denial.

True science itself must, at length correct tne false; and recall the wanderers. Science appeals—as it should, as it must appeal—to the volume of nature material and mental. There is one—but one volume. Its authority for science must be supreme. The duty of science is to accept and interpret this volume, not to ignore reject or pervert it.

So there is a science that is true; and it is one, however manifold and pretentious the false may be.

There is one standard for Philosophy—the system of nature material and mental. It will not do for Philosophy to ignore, reject, or pervert this; but, on the contrary, it should learn and interpret this with docility and fidelity. So real Philosophy by virtue of persistent right will, at length, check sophistical vagaries; for real Philosophy is one, however manifold may be the spurious.

Christianity has one unerring standard—the Scriptures. It will not do to ignore, reject, or pervert this; but cordially to accept and reverently to study this all-sufficient rule of faith and life. So Scriptural Christianity will, at length, rectify or remove the perverted; for there is one Christ, and the Scriptures cannot be brkoen.

Logically, philosophically, religiously we cannot finally drift. The individual and the common consciousness; the laws of thought, and the law of things; the facts of history; the constitution and environment of our rational being; the divine plan, and purpose, and revelation in the Written and the Living Word—all forbid.

LEADING THEORIES OF INSPIRATION.

[A Lecture delivered before the Summer School of Christian Philosophy, at Richfield Springs, 29th of August, 1883.]

By Isaac Errett, D.D.,

Cincinnati, Ohio.

WHILE the fact of inspiration is generally admitted, even by those who refuse to acknowledge the Scriptures of the Old and New Testaments as authoritative, the theories concerning the methods and character of inspiration are various and conflicting. It is impossible, within the prescribed limits of this lecture, to make a full exploration of these theories; and it would be presumptuous, where so many of the learned have, in their fullest investigations, failed to reach any common ground of agreement, to attempt to dispose of all the difficulties that still throng about the subject, in a discussion as brief as the present one must be. The most we can do is to disembarrass the question of some needless difficulties, and point out what seems to us a plainer and safer path of inquiry than is usually pursued.

Our word inspiration is derived from the Latin noun *inspiratio*, from the verb *inspiro*, which signifies to blow or breathe in or upon. This corresponds in meaning with the Greek *ἐμπνέω*. It is easy to see how, in a living language, such a word would glide into various meanings and shades of meanings. Once in the New Testament we have the phrase "inspiration of God," a translation of *theopneustos* (*θεόπνευστος*), God-breathed, or, inspired of God. "All Scripture is given by inspiration of God." (II. Tim. iii., 16.) In our common version of the Old Testament there is just one occurrence of the word inspiration (Job xxxii., 7, 8): "I said days should speak, and multitudes of years should teach wisdom, but there is a spirit in man, and the inspiration of the Almighty giveth them understanding." The speaker is a young man, who had been listening to his seniors, and, failing to find in their utterances a solution of the difficult problems involved in the discussion, justifies his own attempt at solution by the remark that while age and experience give wisdom, there is another and higher source of knowledge on such questions, even the divine inspirations—the breathings of God in the soul, which are sometimes vouchsafed to man. He speaks as one who believes himself inspired of God. In the Septuagint we have here *pneuma* (πνευμα), answering to spirit, and *pnoē* (πνοή), breath or inspiration; as also in Job xxxiii., 4: "The spirit of God hath made me, and the breath of the Almighty hath given me life." As God breathed into the nostrils of man the breath of life, and man became a living soul; so He is spoken of by Elihu as sometimes breathing into the spirit of man knowledge and wisdom, worth more than the lessons of age and experience.

We have, in the New Testament, another passage in which the same idea is more fully brought out. It is said of our Lord, that on one occasion, after the resurrection, when in company with His chosen apostles, He breathed on them and said unto them, "Receive ye the Holy Spirit: Whosesoever sins ye remit, they are remitted unto them; and whosesoever sins ye retain, they are retained." (John xx., 21-23.)

This must be regarded as a symbolical action, intimating that in order to fit them to make a proclamation of pardon to the human race, the Spirit would be breathed into them. By no wisdom of their own; by no evolution of human nature into a high spiritual perfection; but by a power from without, communicated to them, they would be endowed with heavenly wisdom, enabling them to utter God's truth concerning the remission of sins, and to confirm their message by supernatural attestations. Inspiration is not something *breathed out from man*, as the product of his own spiritual culture, but something first *breathed into* man—a spiritual illumination from a heavenly source, imparting knowledge and wisdom superior to all that belongs to the subject of it in his natural state, or through his own acquirements.

This inspiration is defined by Knapp as "an extraordinary divine agency upon teachers while giving instruction, whether oral or written, by which they are taught what and how they should write or speak."

Lee declares it to be "that actuating energy of the Holy Spirit, in whatever degree or manner it may have been exercised, guided by which the human agents chosen of God have officially proclaimed His will by word of mouth, or have committed to writing the several portions of the Bible."

Bannermann says: "As an act, inspiration is the supernatural operation of the Spirit of God upon a man, by which he is enabled to speak or write with infallible accuracy the objective truth revealed to him by God for that purpose. Or, as the result of that act, inspiration is a statement, in speech or writing, made with infallible accuracy, through the supernatural operation of the Spirit, of objective truth revealed to man by God, to be so stated."

Morell, Curtis and others see nothing in the word but the impartation to man of a superior power to discern and express truth, without involving the idea of infallible accuracy.

These definitions—some of them rather cumbrous—are framed to suit the theories of the writers. Perhaps as clear an idea of its meaning in the New Testament as can be obtained, is found in II. Peter i., 20, 21: "No prophecy of Scripture is of private (or special) interpretation (or exposition). For no prophecy ever came by the will of man; but men spake from God, being moved by the Holy Spirit."

The word rendered *moved*, means *borne along*, *carried onward*, as a ship by the wind. It indicates a power external to the prophets, by which they were borne along in their utterances. Their prophecies were not their own interpretations of God's will or purposes; but were what the Spirit constrained them to utter—often the meaning of the utterances being unintelligible to themselves.

Now the fact of such an inspiration is clearly asserted, not only in this passage, but in others, and may be readily accepted by the believer. But the Spirit's mode of inspiring is quite another thing, and may not be to us explainable. Just here is where the trouble begins. A theory is formed to explain the mode of the Spirit's operations, and the extent to which divine power is asserted over the human mind in these operations. The theory is found to be not exhaustive of the facts in the case. There are facts which it not only does not explain, but actually contradicts. So another theory is formed to overcome this difficulty; but it ignores or contradicts other facts.

Coleridge's subjective theory was a revolt from the mechanical theory, but in escaping out of some difficulties he plunged blindly into others not less formidable. And so we go from theory to theory, and find all of them founded in a partial view of the subject, and oftentimes creating more doubt and perplexity than they remove. It is worth while to raise the question whether a satisfactory theory of inspiration is possible—or whether, as with the subject of the atonement, a correct philosophy of it is not beyond our grasp. The fact that Christ died for our sins—that He died, "the just for the unjust, that He might bring us to God"—that He "bore our sins in His own body on the tree, that we, being dead to sin, might live unto righteousness"—this fact, we say, is clearly expressed, and the heart can feel its power. But when it is attempted to explain just how it is that the death of Christ takes away our sins—whether His life was a ransom, a price paid down for our redemption; or an offering to divine justice, to make it possible for God to forgive sinners and yet maintain His sovereignty over the intelligent universe; or a display of love to win the hearts of sinful men back to the Father from Whom they had strayed—we are at once involved in confusion and strife. The *fact* that Christ died for our sins is submitted to our *faith;* its *philosophy* is beyond the grasp of our *reason.* It might be wise, therefore, to rest contented with the fact, and have as little as possible to do with the theories. As long as a sinner surrenders heart and life to Him Who died for him, and trusts Him for salvation from sin and death, he is to be accepted to Christian fellowship, whether he accepts or rejects, or remains ignorant of, any theory or all theories of the atonement. The *theories* are *human;* the *fact* is *divine.* And as long as any man, conscious of his ignorance of spiritual truth, is willing to accept Jesus as the Way, the Truth and the Life, and to obey His will, as set forth in the Scriptures, no one has a right to vex him because of this or that theory of inspiration which he holds or rejects. All we have a right to insist on is, that he shall not vex others with his theory, or make it an occasion of strife in the Church of God.

It becomes necessary, however, to deal with theories when they are found to be working mischievously. When theories of inspiration tend to destroy confidence in the Scriptures, as the revealed will of God, and the foundations of Christian faith are likely to be sapped by the ingenious reasonings of their advocates, it becomes a duty to deal with these theorists, and expose their errors. It is for this reason, and with no view to add another to the conflicting and confusing theories already existing, that we proceed to note and discuss the theories of inspiration now current.

I. THE THEORY OF NATURAL INSPIRATION.—A theory which admits the fact of inspiration, but traces it to natural causes, denying that there is in it any supernatural element whatever. Thus Mr. MacNaught, of Liverpool, England, following in the wake of Coleridge and Maurice, and pushing their reasonings to the remotest limits, defines inspiration to be "that action of the Divine Spirit by which, apart from any idea of infallibility, all that is good in man, beast, or matter is originated and sustained." (Page 36, second edition.) He denies all distinction between genius and inspiration. He doubts not that "David, Solomon, Isaiah or Paul would have spoken of everything which may with propriety be called a work of genius, of cleverness, or of holiness" as "works of the Spirit of God, written by divine inspiration." (Page 132.)*

Mr. Morell, in his "Philosophy of Religion," says:

"The proper idea of inspiration, as applied to the Holy Scriptures, does not include either miraculous powers, verbal dictation, or any distant commission from God." (Page 165.) On the contrary, it consists "in the impartation of clear intuitions of moral and spiritual truth to the mind by extraordinary means. According to this view, inspiration, as an internal phenomenon, is perfectly consistent with the natural laws of the human mind —it is a higher kind of potency, which every man, to a certain degree, possesses."*

---

* See "Aids to Faith," pp. 346, 347.

Schliermacher, DeWette, and many other German divines, took a somewhat similar view, rejecting all miraculous inspiration, and attributing to the sacred writers what Cicero accorded to the heathen poets—*afflatum spiritus divini*—" a divine action of nature, an interior power resembling the other vital forces of nature." †

Dr. T. F. Curtis, while not limiting inspiration to this meaning, finds the basis of it here. He says:

"The mathematical genius of a Newton may be termed inspiration; the elevation of a Milton in his poetry, as well as that of a Bezaleel to design and work in brass for the service of the temple. Did not Pericles and the most eloquent of ancient orators pray for inspiration in their speeches? And have not the supremely wise and good of all ages sought for it in their daily work, and found therein a new and original wisdom leading to the loftiest success? Much of this is, indeed, of a different kind from simply religious inspiration, even where originating in it. But who shall say that all kinds of inspiration, that of poetry and of the reasoning powers, have not contributed their quota to make our Bibles fit to furnish all men so thoroughly to every good word and work?"‡

That the word *inspiration* is currently used *in the sense of an elevating influence on the intellect or emotions*, there is no question. We presume that Pope meant no more than a poetical use of the word in this sense when he said:

"O Thou my heart inspire,
Who touched Isaiah's hallowed lips with fire."

Or Milton, when he wrote:

"Sing, Heavenly Muse, that on the secret top
Of Oreb, or of Sinai, did'st inspire
That shepherd who first taught the chosen seed."

While he sought the inspiration of the same Spirit that inspired Moses, he meant no more than that he should be granted such an elevation of his intellectual powers as should enable him to grasp and deal worthily with his great theme.

---

* "Aids to Faith," pp. 345, 346.

† See quotation from DeWette in Gaussen, p. 27.

‡ "The Human Element in the Inspiration of the Scriptures," pp. 50, 51.

Of this theory we have to say:

1. Whether anything in the Scriptures is the offspring of such an inspiration as this, or not, it utterly fails to exhaust the meaning of that word in its scriptural use, or to account for the facts connected with it. Inspiration is almost uniformly represented as the result of *an influence from without*—the Holy Spirit *coming upon* the persons to be inspired and *entering into* them, and producing in a moment such a change as enables them to speak what, before, they could not have spoken; and that, too, in some instances, contrary to their own will, and in other instances without a gleam of intelligence on the part of the speaker as to the import of his utterances. We need only to refer to instances which we cannot now take space to discuss: That of Balaam (Num. xxiii.); that of the prophets who "inquired and searched diligently . . . searching what or what manner of time the Spirit of Christ which was in them did signify, when it testified beforehand the sufferings of Christ, and the glory that should follow" (I. Peter i., 10–12); and that of the apostles, who were taught: "Take no thought beforehand what ye shall speak, neither do ye premeditate; but whatsoever shall be given you in that hour, that speak ye: for it is not ye that speak, but the Holy Ghost." These are simple specimens of statements in connection with the fact of inspiration which cannot be made to harmonize with this theory.

2. The *fact* of inspiration is admitted in this theory. It is not denied that the writers of the Holy Scriptures were inspired. Not only is this not denied, but it is admitted that the inspiration of the Bible, taken as a whole, is greatly superior to that of all other professed holy writings. Thus Emerson says:

> "The most original book in the world is the Bible. This old collection of the ejaculations of love and dread, of the supreme desires and contritions of men, proceeding out of the region of the grand and eternal, seems . . . the alphabet of the nations; and all the posterior writings, either the chronicles of facts under very inferior ideas, or when it rises to sentiment, the combinations, analogies or degradations of this. . . . People imagine

that the place which the Bible holds in the world, it owes to miracles. It owes it simply to the fact that it came out of a profounder depth of thought than any other book."*

Max Müller—and who can speak with more authority on this point?—says in the preface to the edition of the Sacred Books of the East:

" Readers who have been led to believe that the Vedas of the ancient Brahmins, the Avesta of the Zoroastrians, the Tripitaka of the Buddhists, the Kings of Confucius, or the Koran of Mohammed, are books full of primeval wisdom and religious enthusiasm, or at least of sound and simple moral teaching, will be disappointed on consulting these volumes. . . . I cannot help calling attention to the real mischief that has been done by the enthusiasm of those pioneers who have opened the first avenues through the bewildering forest of the sacred literature of the East. They have raised expectations that cannot be fulfilled; fears also, that, as will be easily seen, are unfounded. . . . I confess it has been for many years a problem to me, aye, and to a great extent is so still, how the Sacred Books of the East should, by the side of so much that is fresh, natural, simple, beautiful and true, contain so much that is not only unmeaning, artificial and silly, but even hideous and repellent."

It will be seen, then, that even on this broadest rationalistic theory, the Bible is preëminently the Book of books. He who rests his faith upon it, rests on the strongest basis of trust yet vouchsafed to mortals. They who go as far as this in admitting its superior—nay, as far as it is yet known, supreme—inspiration, would they act in harmony with their own concessions and walk in its light, might grow into a nobler faith in this inspired volume.

II. THE SUBJECTIVE THEORY.—The theory already discussed blends with this, and they might have been discussed together; yet in some respects they are distinct. Dr. Curtis says:

"The elevation of the Scriptures as a whole, is of course of a higher and nobler kind than the mere inspiration of genius, as it is also higher in degree, though not different in kind, as I apprehend, from that of the Christian, when inwardly moved by the Holy Ghost to consecrate himself as a minister or missionary or translator of the Bible for the heathen."† " By so much as any man is a Christian is he an inspired man."‡

* *The Dial*, October, 1840.

† "Human Element," pp. 51, 52.

‡ *Ib.*, page 48.

Let this suffice as a statement of the doctrine of this school of theorists. Inspiration is the result of the elevation of one's spiritual faculties. As Dr. Charles Hodge well remarks:

> "It consists in such an ordering of circumstances and such a combination of influences as to secure the elevation of certain men to a higher level of religious knowledge than that attained by others. They may also, in a sense, be said to be inspired in so far as their inward, subjective state is purer and more devout, as well as more intelligent, than that of ordinary men. There is no specific difference, according to this theory, between inspired and uninspired men. It is only a matter of degrees. One is more and another less purified and enlightened. This theory makes the Bible a merely human production. It confines revelation to the sphere of human knowledge."*

On this theory we remark:

1. Like the theory first discussed, it fails to exhaust the scriptural meaning of the word *inspiration*, and is at war with many of the facts connected with inspiration in the Scriptures. The cases cited in opposition to the first theory, are equally applicable here.

2. While it is true that God sometimes chose eminently spiritual men through whom to convey lofty spiritual truths, it is also true that some inspired men were of a very different character. Witness Balaam, Solomon, Jonah and the disobedient prophet. (I. Kings xiii.) In none of these instances can it be justly claimed that the inspired men were of lofty spiritual culture or eminent spiritual character. Balaam, who "loved the wages of unrighteousness," and Solomon, with his pride, pomp, sensuality and idolatry, cannot surely be classed with those who possessed elevated spiritual faculties.

Paul certainly admits the possibility of high inspiration without high spiritual elevation, when he says: "Though I speak with the tongues of men and of angels, and have not love, I am become as sounding brass, or a tinkling cymbal. And though I have the gift of prophecy, and understand all mysteries, and all knowledge, and though I have all faith, so that I could move mountains, and have not love, I am nothing." (I. Cor. xiii., 1,2). Paul certainly did not regard inspiration as the necessary result of spiritual exaltation; but on the contrary, considered lofty inspirations as possible in association with inferior spiritual development. To believers in the inspiration of the Scriptures, this passage annihilates this theory. It may be that portions of the Scriptures are the offspring of this subjective inspiration; but the theory fails to account for many facts and statements concerning inspired persons, and is not comprehensive enough to cover the whole ground.

---

*Dr. Hodge, "Systematic Theology," Vol. I., pp. 172, 173.

3. It is true that the spirit of man is placed *en rapport* with the Spirit of God only as it is pure. It is true also that "the animal man receiveth not the things of the Spirit, because they are spiritually discerned." But this relates to the *understanding* and *appropriation* of spiritual truth *already revealed*, and not to a knowledge, through divine inspiration, of truths unknown before. There are beauties and glories in nature which are hidden from many, because of their gross tastes and ignorance. Elevation of intellect and education of taste may place them on a plane of observation where they may receive and delight in these things, and find a new world opened to them. But all these things were already revealed on the pages of the Book of Nature, and were already understood and rejoiced in by multitudes of the intelligent and refined. The purification of our spirits and the resultant fellowship of the Holy Spirit, prepare us to discern spiritual truths already made known by inspiration, for our own growth in grace and in knowledge; but it does not follow that we are thereby enabled to grasp new truths and communicate new messages of truth and grace and love from God to men. Paul prays in behalf of the Ephesians, that the eyes of their understanding may be enlightened, that they may "know what is the hope of his calling, and what is the riches of the glory of his inheritance in the saints," etc. (Eph. i., 17–23); but these things had been already made known by the inspired apostles, and were simply to be understood and appreciated by the Ephesians, and received into hearts spiritually prepared to receive them. The transmission of truth from God to man is one thing; the study, understanding and appropriation of it is quite another thing. Milton had reference to this moral and spiritual elevation when he said:

> "And chiefly thou, O Spirit, that dost prefer
> Before all temples, th' upright heart and pure,
> Instruct me, for thou knowest . . .
> . . . What in me is dark,
> Illumine; what is low, raise and support;
> That to the height of this great argument
> I may assert eternal Providence,
> And justify the ways of God to man."

While Milton, as the result of intellectual and spiritual culture, might experience such an exaltation of all his faculties and such a quickening of imagination, and of his reasoning powers, as to be able to deal skilfully with the mysteries involved in his theme, he certainly was not gifted to soar into the realm of unknown truth, nor did he bring to earth a single truth unknown before. But men naturally, educationally, perhaps morally, his inferiors, have transmitted from heaven to earth grand truths concerning God and man, sin and righteousness, heaven and hell, time and eternity, duty and destiny; and Milton, with all his intellectual grandeur, was a humble disciple at their feet, learning from them of things which eye had not seen, nor had ear heard, nor had they entered into the heart of man—the things which God had prepared for them that love Him.

III. THE THEORY OF EVOLUTION.—This is another anti-supernatural theory. It teaches that in the spiritual as in the material universe, everything proceeds on the principle of evolution. By the operation of this all-pervading law, the highest forms of humanity are evolved from the lowest. Men and peoples begin in savagery and naturally progress into higher life. Every age and nation has its supreme men, its sages, philosophers, poets and military cheiftains—the noblest flowerings of humanity of which the age or nation allows. The highest forms of humanity exist potentially in the lowest; hence there are in the stirrings of its heart, dreams and visions of "the good time coming," prophecies of the glorious destiny of man in the coming ages. They who thus foresee the outcome of humanity's fortunes, and interpret the vague longings of the multitudes, are the seers, the prophets of the people, who regard them as inspired of God. The Jews, perhaps more than any other nation, abounded in such gifted men, who were simply more fully developed men than the masses of their countrymen. Their prophets "anticipate the thought of ages by profound intuitions, pregnant imaginations, visions of the seer, as Plato does. Genius often outstrips the plodding feet of generations, but genius must not put on the airs of omniscience." Rev. R. Heber Newton, from whom the last quotation is made, further says:

> "There was, however, a most real and substantial typifying of Christ through the Old Testament; but it was natural, organic, ethical and spiritual, in those books, as first in the lives of the people. The growth of the nation onward toward the true image of God, the true Human Ideal; the travail of the nation with the Divine-Human Character which at the last came to the birth in Jesus the Christ; this was a mystery of natural, organic evolution, which, 'must give us pause,' in every shallow denial of a supernatural involution in human history. This makes true rationalism reverent before 'that Holy Thing' born not alone of Mary, but of Mary's race; begotten plainly of the overshadowings of some Holy Ghost, of whom our best judgment is, now as of old, 'He shall be called the Son of the Highest.' The whole history of Israel is a growth of the Christ, and that is the abiding wonder of it. In such a mystic evolution it may well be, in history as in nature, that the organic processes type the on-coming form of life."*

Thus Jesus the Christ, the Son of God, is Himself a natural evolution of humanity—the perfect flower of the ages, "begotten of some Holy Ghost" or other—some one of the various Holy Ghosts which the ages in their progress had produced! Verily, there is little worthy of the name of inspiration in the Old Testament Scriptures, if this is the sum and substance of its teachings. We get rid not only of supernatural prophets, but of a supernatural Christ as well, and, as Dr. Hodge says, "revelation is confined to the sphere of human knowledge." We cannot give much space to the discussion of this theory; but we take leave to say that it does not harmonize with the known facts of history, especially of Bible history, which exhibit nations and peoples, not ascending first from savagery and fetichism to high civilization and monotheism, but descending from monotheism and civilization into gross idolatry and barbarism, or associating high intellectual culture with rank idolatry on one hand, and chilling skepticism on the other. Nor does it harmonize with those significant Bible facts, which exhibit a semi-barbarous people, cut off from intercouse with the most enlightened nations, and ever prone to idolatry, yet possessed of, and perpetuating, from age to age, the most enlightened monotheism, the most exalted revelations of the attributes and character of the one living and true God, known in all the religions and literatures of the ages preceding the Christian era.

---

* "The Right and Wrong Uses of the Bible," pp. 99, 100.

The theory has, however, a strong semblance of truth, and therein lurks its danger. There *is* a progressive development of moral and spiritual truth throughout the Old Testament history—a gradual unfolding of the gracious purposes of Jehovah in behalf of our race, until " the fullness of time " when God was manifested in the flesh in the person of Jesus of Nazareth. There was a long reign of night, when the stars twinkled in the heavens; a period of moonlight, when the reflected light of the invisible sun gave to earth gentle and pleasant illumination; to which succeeded the light of the morning star, heralding the approaching day—and then the Sun of Righteousness arose with healing in His wings. The revelations made during that long period were partial—God spoke "by divers portions and in divers manners by the prophets unto the fathers." This must always be kept in mind in the interpretation of the Old Testament. On this point Mr. Newton has said many just and forcible things under the head of " The Wrong Uses of the Bible." But they do not touch the question of the inspiration of the Scriptures. They have been as well and as earnestly said by others, who profoundly believed in the plenary inspiration of the Old Testament Scriptures. They relate, not to *inspiration*, but to *interpretation*. If the Lord had a revelation to make to children, it would undoubtedly be in the language of children, and would necessarily be a partial revelation, adapted to the capacity of children; but it would require as complete an inspiration to make this partial revelation in language suited to childhood, to make it of its own kind perfect, as would be required for a fuller revelation to men of mature minds, in language adapted to the capacity of manhood. It requires more wisdom to talk successfully to children than to adults. The idea that, because the communication is to be made to children, it requires less care or less ability, or fewer safeguards about it to have it serve the highest purposes of truth, is absurd. It must have a form of expression adapted to the infant mind, and it must be within the limits of the child's capacity to understand; but within these limits it must be as true and as trustworthy as the communications of a broader or higher nature made to mature minds. The human race had its infancy, its childhood, its youth, before the "fullness of time" arrived; and God's revelations were adapted to the various stages of development in humanity's progress; but they are not, for this reason, less inspired than after-revelations.

When we come to consider the views of inspiration entertained through the ages by those who accepted the Holy Scriptures as a divine revelation, we fail to find, for a long time, any special *theory* of inspiration. Touching the views held by the ancient Jews, our information is meager. Josephus says:

> "Every one is not permitted of his own accord to be a writer, nor is there any disagreement in what is written; they being only prophets that have written the original and earliest accounts of things, as they have learned them of God Himself by inspiration; and others have written what hath happened in their own times, and that in a very distinct manner also. . . . For we have not an innumerable multitude of books among us, disagreeing from and contradicting one another (as the Greeks have), but only 22 books, which contain the record of the past times, which are justly believed to be divine."*

There is here nothing more than an assertion of the *fact* of inspiration.

Philo Judæus, while according to Moses a superior place among inspired men, evidently regarded all the sacred writers as inspired. Indeed, his own system of allegorical interpretation could have had its basis only in such a view of inspiration as gave divine significance to even the slightest word or statement of the Jewish Scriptures.

The story that prevailed among the Jews, to the effect that the translators of what is now known as the Septuagint version did not confer with each other, but carried on their work separately, or in pairs, and that when they met to compare their versions, they were found in every point exactly to agree, goes to show that the ancient Jews profoundly believed in the verbal inspiration of their Scriptures. And it ought to be carefully noted that the Rabbinical authorities quoted to prove that the Jews insisted on different degrees of inspiration among their sacred writers, belong to later times. It is most probable that this theory was adopted in the early centuries of the Christian era, to break the force of the Christian argument based on the Jewish prophecies, by assigning to the prophets the lowest degree of inspiration, as knowing only a part of the truth.

---

* "Contra Apion," Book I., 7, 8.

Among the Christian writers of the early centuries of the Christian era we find a general and emphatic assertion of the fact of inspiration, but no generally accepted theory of it. As far as their views of the method of inspiration crop out, they prove to be various. Some, like Justin, inclined to a theory of mechanical inspiration, the Divine Spirit "acting on just men as a plectrum on a lyre." Others, like Athenagoras, incline to the subjective theory—inspiration being the full flower of personal spirituality. Others, like Tertullian, believed that divine communications were made through men in a condition of trance or ecstacy, the subject being wholly passive. Clement of Alexandria, and others, maintain the existence of an allegorical meaning throughout the whole Bible, which of course involves verbal inspiration. Origen seems to incline to the subjective view, arguing that "the divine messengers, by the contact of the Holy Spirit with their souls, so to speak, gained a keener and a clearer intuition of spiritual truth;" yet, whatever his theory, he evidently believed in the plenary inspiration of the Scriptures. Theodore of Mopsuestia recognized different degrees of inspiration. Augustine appears to have favored what is now called the mechanical theory. These facts are sufficient to show that while the early Church profoundly revered the Scriptures, Old Testament and New, as inspired, and as authoritative communications of the will of God, they accepted the fact of inspiration without any settled or prevalent theory as to the *modus operandi* of the inspiring Spirit.

IV. THE CHURCH THEORY.—Before coming to the prevalent modern theories, it is proper to note the Roman Catholic theory, which has also lent its influence to some of the Protestant theories. In the Douay Bible, in a note on II. Timothy iii., 16, we read:

> "Every part of Divine Scripture is certainly profitable for all these ends. But if we would have the whole rule of Christian faith and practice, we must not content ourselves with those Scriptures which Timothy knew from his infancy, that is, the Old Testament alone; nor yet with the New Testament, without taking along with it the traditions of the apostles, and the interpretation of the Church to which the apostles delivered both the Book and the true meaning of it."

The Council of Trent decreed (Session 4) concerning the truth and discipline of the Gospel, that they are:

> "Contained in the written books and unwritten traditions which, received by the apostles from the mouth of Christ Himself, or from the apostles themselves, the Holy Ghost dictating, have come down even unto us. . . . One God is the author of both (Old and New Testaments), as also the said traditions dictated either by Christ's own word of mouth, or by the Holy Ghost."

According to this view, inspiration, for all practical purposes, dwells in the Church, rather than in the Bible; that is, whatever inspiration may be allotted to the Scriptures, it is of no avail only as we have an inspired and infallible interpretation of it by the Church; or, according to the ripest development of this doctrine, until we have an inspired and infallible interpretation of it by the Pope.

It does not fall within the range of this essay to discuss this doctrine of inspiration, nor have we the space to do it justice. We dispose of it, therefore, with this remark: It does not rid us of any of the difficulties that throng about the question of inspiration, but rather multiplies them. For, while we have abundance of historical testimony of the decisions of council against council, Pope against Pope, and even of one edition of the Scriptures with papal approval against another edition of the Scriptures with a similar indorsement, as in the revised text of the Vulgate put forth under the auspices of Pope Sextus V., in 1590, and that of Clement VIII., in 1592, it is evident that we are increasing the difficulties touching alike the questions of inspiration and infallibility by this Church theory.

V. THE THEORY OF VERBAL INSPIRATION.—This theory belongs to the seventeenth century. It is, in one of its phases, called the *mechanical* theory; and in another, the *mystical* theory of Philo and of some of the Christian Fathers, who regarded the sacred writers as passive and uttering the Spirit's words in a sort of frenzy. The inspired writers were simply machines, used by the Divine Spirit to utter the Spirit's words, without any necessary knowledge of the meaning of their utterances. Some of this school of theorists contend that not only every word, and phrase, and the order of these, but the vowel points and the punctuation, were dictated by the Holy Spirit. The *Formula Consensus Helvetici* declares that "the Old Testament is *theopneustos*, God-breathed, equally as regards the consonants, the vowels, or at least their force."*

Dr. Gaussen, in his well-known work on "Inspiration," says, in his conclusion: "The whole written Word is inspired by God, even to a single jot and tittle." The Holy Spirit, according to this theory, dictated the words and the style, and the sacred writers were merely amanuenses. This is a very simple theory, easily apprehended; but, while it may be admitted that there are instances in which facts seem to support this theory, such as those in Balaam's case, where he was compelled to speak words contrary to his own will, and in the case of some of the prophets, who did not understand what they uttered, and became anxious students of their own prophecies—the theory is confronted with the undeniable fact that there is in the Scriptures no uniform characteristic of authorship, so far as words and style are concerned, but on the contrary, the peculiarities of the different writers are marked and unmistakable; so much so that their personal idiosyncracies and their degree of culture unmistakably appear. In a word, we are compelled to recognize a human element in these productions, to such an extent that, while in view of their inspiration, we properly say, "Thus saith the Lord;" in view of the human element, we may as properly say, thus saith Isaiah, thus saith Micah, thus saith Mark, or John, or Peter, or Paul. As Gaussen himself puts it:

"No one, say they, can read the Scriptures without being struck with the difference of language, conception and style, discernible in their authors; so that even were the titles of the several books to give us no intimation that we were passing from one author to another, still we should almost instantly discover, from the change of their character, that we had no longer to do with the same writer, but that a new personage had taken the pen. This diversity reveals itself even on comparing one prophet with another prophet, one apostle with another apostle. Who could read the writings of Isaiah and Ezekiel, of Amos and Hosea, of Zephaniah and Habakkuk, of Jeremiah and Daniel, and proceed to study those of Paul and Peter, or of John, without observing, with respect to each of them, how much his view of the truth, his reasonings, and his language, has been influenced by his habits, his condition in life, his genius, his education, his recollections—all the circumstances, in short, that have acted upon his outer and inner man? They tell us what they saw, and just as they saw it. Their memory is put into requisition, their imagination is called into exercise, their affections are drawn out—their whole being is at work, and their moral physiognomy is clearly delineated. We are sensible that the composition of each has greatly depended, both as to its essence and form, on its author's circumstances and peculiar turn of mind."

---

*Hagenbach's "History of Doctrines," Vol. II., p. 244.

Dr. Gaussen must be credited with fairness and candor, in stating this objection to his theory. And it must be acknowledged that he wrestles with it bravely. But, in our judgment, he is unsuccessful. He says very prettily:

"As a skilful musician, when he would execute a long score by himself, takes up by turns the funereal flute, the shepherd's pipe, the merry fife, or the trumpet that summons to battle; so did Almighty God, when He would make us hear His eternal Word, choose out from of old the instruments which it seemed fit to Him to inspire with the breath of His Spirit."

This is illustration, and not argument; and it is deceptive illustration, for the analogy must be instituted ***between different instruments of the same kind***, and not between ***different kinds of instruments***. He might properly take different fifes, or trumpets, or organs, to show that, after all, each instrument, though made by the same hand and played upon by the same musician, has its own peculiarities; but beyond this he cannot properly go. God's inspired ones were all *men*, and if there is no human element in their inspiration they will all give forth the same music at the touch of the hand or the breath of the Divine Performer. This will be seen more forcibly if we recur to the illustration which these theorists are fond of employing. The Holy Spirit is the Dictator, and the human writers are mere amanuenses. Now, if amanuenses are simply to take down what is dictated to them by the same person at different times, while there may be a difference in the penmanship, and in the subject-matter, and differences in adapting style and matter to different persons or peoples, that is as far as the difference will extend. There could be no such differences in the productions of the same author as are found in the productions of the various writers of the sacred books.

But Gaussen really surrenders the position of the mechanical theorists, in admitting, as he does, the unmistakable evidences of a *human element* in the sacred writings. In admitting this, he and those of his school are compelled to adopt an *accommodation theory*—that the Holy Spirit merely "accommodated Himself" to the peculiarities of the sacred writers. One of them says: "The Holy Ghost inspired His amanuenses with those expressions which they would have employed had they been left to themselves;" thus making inspiration in regard to words wholly useless. Mr. Lee well says on this subject:

> "This wholly hypothetical statement assumes an exercise of the divine agency for which no motive can be assigned, or end pointed out; while it seems impossible to reconcile this phase of the organic, or as it has of late years been termed, *mechanical*, theory of inspiration with the highest aim of religion—the elevation and enlightenment of the faculties of man."*

We have to remark further concerning this verbal theory, in all of its phases, that it is useless. For even if it were true that every word, as originally spoken or written, was inspired, we have none of the original documents, and the Scriptures are now read in copies containing many various readings, interpolations, omissions, and errors of various kinds; and in translations which, at best, could not always reproduce in another language words and phrases exactly answering to those in the original language, and which, in fact, are often very imperfect. The translations, quite as much as the originals, would need the benefits of verbal inspiration; and although this claim for certain translations has sometimes absurdly been put forth, and multitudes of pious but ignorant people in our own country and in England, until very recently, regarded King James' version with a reverence due only to inspiration, the day is past when such a view can be seriously entertained. Irenæus and Augustine regarded the Septuagint as an inspired translation, and the latter was quite unwilling that its errors should be interfered with; but such a doctrine no longer needs refutation.

---

* Lee on "Inspiration," p. 37.

It is said in reply, that notwithstanding all the errors in transcribing and translating, and the formidable list of various readings, there is no serious interference with the meaning of the text; that a clear knowledge of the divine will, in relation to the truths to be believed, the duties to be performed, the evils to be avoided, and the hopes to be cherished, can still be obtained, even from the most imperfect translations; and that practically the Bible is a volume of inspired truth and a safe guide in all that pertains to salvation, duty, and destiny. All this, we respond, is cheerfully admitted. While the full beauty and strength of some truths may be obscured, and some errors in translation may be misleading—as a whole, the Bible, in any translation, is a safe guide to a knowledge of spiritual truth and duty. More than this: the progress of textual criticism, the careful and critical collation of manuscripts, and their scientific classification, is rapidly relieving us of doubt and uncertainty and bringing us on to more solid ground as to the original text. As a rule we feel no uncertainty as to the *thought*—"the *mind* of the Spirit," as communicated in the holy writings. This we are glad to be able to say. But, so far as *the precise words* are concerned, the facts we have mentioned, and which no one disputes, explode the theory of verbal inspiration, and prove it to be practically useless. If it had been the divine plan to give heavenly communications in God's own words, rather than God's thoughts in man's words, there would have been needed the same inspiration for copyists and translators as for the original speakers and writers; for it must have been known to the Divine Mind that these communications would go out to men mostly in copies and translations of the originals. The fact that no such inspiration was ever granted, and is no longer even asserted, is itself proof that God did not purpose, in inspiration, anything beyond a transmission of His *thoughts* in the *words of men*. His providence has so far watched over the Scriptures of truth that "the mind of the Spirit" has been preserved, even in imperfect translations, sufficiently to furnish a safe guide to man; while the errors that have been committed by human hands, and the uncertainties attendant upon human carelessness, short-sightedness, and even partisan zeal and bigotry, have compelled such critical and anxious explorations in the fields of biblical literature as to stimulate those who revere God's Word, and even those who reject it, to the employment of their noblest powers in the the study of the Bible, resulting in an intellectual strength, an enlightened faith, and a spiritual vigor, that could have been realized in no other way.

We do not assert that in no instances has God employed men merely as amanuenses; but we do affirm that this theory does not and cannot account for some of the most prominent and universally recognized facts involved in the question of inspiration.

VI. We ought here to say that *plenary* inspiration does not necessarily involve verbal or mechanical inspiration, although they are often confounded. Plenary inspiration affirms that *all* Scripture is inspired. Dean Alford was pronounced in his opposition to the verbal-inspiration theory, but holds to plenary inspiration. It may not be amiss to give a specimen of his reasoning:

" *The Title on the Cross* was written in Greek, and, being reported in Greek by the Evangelists, must represent, not the Latin or Hebrew forms, but the Greek form of the inscription. According, then, to the verbal-inspiration theory, each Evangelist has recorded the exact words of the inscription; not the general sense, but the inscription itself—not a letter less or more. This is absolutely necessary to the theory. Its advocates must not be allowed, with convenient inconsistency, to take refuge in a common-sense view of the matter whenever their theory fails them, and still to uphold it in the main. And how it will here apply, the following comparison will show:

" Matthew: This is Jesus the King of the Jews.
" Mark: The King of the Jews.
" Luke: This is the King of the Jews.
" John: Jesus of Nazareth the King of the Jews.

> "Of course it must be understood that *I* regard the above variations in the form of the inscription as in fact no discrepancies at all. They entirely prevent our saying with perfect precision what was the form of the inscription; but they leave us the spirit and substance of it. In all such cases I hold with the great Augustine when treating of the varying reports of the words spoken by the apostles to our Lord during the storm on the Lake of Galilee: 'The sense of the disciples waking the Lord and seeking to be saved, is one and the same, nor is it worth while to inquire which of these was really said to Christ. For whether they said any one of these three, or other words, which none of the Evangelists has mentioned, but of similar import as to the truth of the sense, what matters it?'"

That is, so as we get the idea, why higgle over the words? But Dean Alford proceeds to say:

> "If I understand *plenary inspiration* rightly, I hold it to the utmost, as entirely consistent with the opinions expressed in this section. The inspiration of the sacred writers I believe to have consisted in the *fulness of the influence* of the Holy Spirit specially raising them to, and enabling them for, their work, in a manner which distinguishes them from all other writers in the world, and their work from all other works. The men were full of the Holy Ghost—the books are the pouring-out of that fulness through the men—the conservation of the treasure in earthen vessels. The treasure is ours in all its richness; but it is ours as only it can be ours, in the imperfections of human speech, in the limitations of human thought, in the variety incident first to individual character, and then to manifold transcription and the lapse of ages."

Alford approaches most nearly,

VII. THE DYNAMICAL THEORY, which insists on "the infallible certainty, the indisputable authority, the perfect and entire truthfulness of all and every part of Holy Scripture;" but fully recognizes the human element—the Holy Spirit enabling the inspired person to speak and write without interfering with his liberty and self-control. It is not attempted to explain how this union of human and divine agencies is effected. As in the living, incarnate Word, the human and divine were united, the divine and human sustain a similar relation to each other, as in the person of Christ. "They are unmixed," says Dr. Schaff, "yet inseparably united, and constitute but one life, which kindles life in the heart of the believer." We may not be able to separate the divine and the human; they may be so blended as to defy analysis; but "the two agencies—the divine and the human—employed in the composition of the Scriptures, are so combined as to produce one undivided and indivisible result." As Dr. Charles Eliott says: "Notwithstanding the exercise of human agency in writing the Bible, it is all alike divine; and notwithstanding the divine agency employed in its composition, it is all alike human. The divine and the human elements together constitute a theanthropic book." This *theory* involves *plenary* inspiration—that is, the inspiration of *all* the Scriptures, making the Bible as a whole a *complete* revelation of the will of God, and of the truth He designed to communicate to men. In one respect this theory needs to be carefully guarded. In saying that all Scripture is inspired, the conclusion instantly drawn by the ordinary mind is, that *every thing in the Scriptures is true.* Yet we know that in the Book of Job, for instance, a great many erroneous things are said, and even Job himself had to acknowledge his errors. That the book, as a whole, teaches important truths, and that the writer may have been inspired to set forth all these errors for the sake of correcting them and bringing out the truth in full force, may be admitted; but when it is argued that these errors are inspired utterances, and that which is shown in the end to be false is taken to be God's own truth, the results are necessarily mischievous. It is said of a New York judge that, in his charge to the jury at a murder trial, he stated that "We have *the highest authority* for saying, 'All that a man hath will he give for his life;'" thus quoting Satan as "the highest authority!" It may be sadly true oftentimes, in our courts, Satan *is* the highest authority; but in this case we presume the judge was misled by the prevalent error, that whatever is in the Bible came from God, and must be true. In Ecclesiastes, we have the sentiments and arguments of a sensualist and a pessimist introduced —with a view, indeed, to show their baseness, and to lead the mind of the reader out of this slough of atheistic sensuality and up to the conclusion that the whole happiness of man is "to fear God and keep His commandments;" but if the utterances of a sensualist are taken to be inspired, it is easy to see what evil results must follow. Indeed, it is not uncommon to quote as

God's own truth, from the books I have mentioned, and as scriptural proofs that man dies like a beast, the declarations of men who certainly were not inspired, but spake their own false conceptions—though it may yet be true that the writer was inspired to place these things on record. In both Old and New Testaments we have genealogical records which whoever asserts their inspiration will find a puzzling task on his hands. Inspiration may have led to the copying of such records as sufficient for the purpose had in view, and in this sense plenary inspiration may, perhaps, be affirmed; but there is a call for careful discrimination at this point.

In view of these and other difficulties, some writers have adopted a theory, which does not, as far as we can see, necessarily war with the dynamical theory, namely:

VIII. THE THEORY OF DEGREES OF INSPIRATION.—We do not now refer to the theory wrought out by Maimonides concerning the Jewish Scriptures, but to Christian writers, such as Bishop Wilson and Dr. Henderson. Dr. Wilson, Bishop of Calcutta, enumerates the inspiration of "suggestion, direction, elevation and superintendency;" and Dr. Henderson makes a different classification, viz: "divine excitement, invigoration, superintendence, guidance, and direct revelation." Without approving either classification, I may be allowed to say that if we are going to theorize at all on this question, my conviction is that, in order to cover all the facts involved, and give an exhaustive definition of inspiration, we shall be compelled to recognize some such distinctions. There is no need to contend for more inspiration than is required in any given case; and we take it, the needs vary according to circumstances. It surely did not require the same supernatural endowments to select and copy chronicles and genealogies from State archives, as to unfold the eternal purpose of God in the moral government of the universe, or to make known the height and depth and length and breadth of that love of God which, indeed, "surpasseth knowledge." If the Song of Solomon is to be accepted as an inspired book, we see not how to class its inspiration with that which produced the Epistle to the Romans; nor can we honor the parable of Jotham (Judges ix., 7–20), or the imprecatory psalms, with a place along-side the sermon on the Mount. Paul spoke "according to the wisdom given unto him" (II. Peter iii., 15), and David and Solomon according to the wisdom given unto them; and the wisdoms are different. To Jesus the Spirit was given "without measure;" to others it was given by measure, and the measures varied. Unless this fact is recognized, we do not see how any satisfactory explanation of inspiration can be made—if, indeed, it can be satisfactorily explained at all.

We have thus sketched the various theories of inspiration that seem to us worthy of note—not in all their phases, but in generalizations sufficiently comprehensive to group together all that possess essentially the same characteristics; and have attempted to point out not all their defects, but their failure to meet the just demand that a theory must satisfactorily dispose of, or account for, all the known facts belonging to its subjects. Let us now briefly look into the true ground of our belief in the inspiration of the Scriptures, and set forth what we regard as the true path of inquiry to conduct us to safe conclusions.

Inspiration, whatever may be its rank in point of importance, is not by any means first in order in our inquiries after religious truth. It is not a question that ought to meet us at the threshold of our inquiries into the truth of Christianity. He who accepts a challenge to discuss this as a preliminary question, is led into a false position, and allows the enemy to take an undue advantage of him. The first question relates to Jesus Himself—His person, His character, His official relations—His person as the Son of God; His character as consistent with His dignity as a Divine personage; His official relations as "the Christ," the anointed Prophet, Priest and King, coming from God to instruct, redeem, and reign in and over the human race. "What shall we do with Jesus, who is called the Christ?" is the question first to be disposed of. And we respectfully submit that it may and should be disposed of without raising the question of inspiration. All that is necessary as preliminary to a rational settlement of this question is, an agreement to admit the books that contain a record of the life and character of Jesus as authentic and genuine, submitting them to the same grammatical and critical tests as are insisted on in the case of any other historical documents. As trustworthy witnesses, and not as inspired messengers, the four Evangelists must be appealed to in this first inquiry. Nothing more than this is needed; nothing more should be demanded. If the inquirer after the truth concerning Jesus is already a believer in the truth of the Old Testament Scriptures, this is a decided advantage; but it is not essential to a settlement of the question concerning the divinity or the Christhood of Jesus that he should even know there is such a book as the Old Testament. Many of the original converts had but little knowledge of the Old Testament; some of them were absolutely ignorant of it. Paul at Athens did not quote Old Testament prophets, but heathen poets; nor did he raise the question of his own inspiration. The human testimony concerning Jesus, tested by all the laws applied to other human testimony, must settle the question as to His life, character, teaching, death, resurrection and exaltation to the heavens. If this does not lead to faith in Him as a Divine Lord and Saviour, it is vain to raise the question of inspiration—a waste of time to discuss it. These testimonies were written for this purpose. "These are written that ye might believe that Jesus is the Christ, the Son of God, and that believing ye might have life through His name." (John xx., 31.) An examination of these testimonies led Nicodemus to say, "We know that Thou art a teacher sent from God, for no one can do these miracles that Thou doest except God be with him." A study of the unique and transcendent character of Jesus constrained Ernest Renan to confess:

> "Whatever may be the surprises of the future, Jesus will never be surpassed. His worship will grow young without ceasing; His legend will call forth tears without end; His sufferings will melt the noblest hearts; all ages will proclaim that, among the sons of men, there is none born greater than Jesus."

A careful study of His life and His work led Frances Power Cobbe to confess:

> "One thing we must believe—that He to Whom was committed such a work, He to Whom such a part was assigned in the drama of history by its great Author, must have been spiritually of *transcendent excellence*. Of ordinary genius, or powers of any kind, He may have had less or more; but of these hidden facul-

ties *by which the highest religious truths are reached*, and of that fervent loyalty by which the soul is fitted to receive divine instruction—of these Christ must have had a superabundant share. Strictly to define His spiritual rank, He must surely have been *the man who fulfilled all the conditions under which God grants His inspiration*."

A study of the diction of the writers of the four Gospels, and of the teaching they record, led Rousseau to say:

"The Jewish authors were incapable of the diction, and strangers to the morality contained in the Gospel. The marks of its truth are so striking and inimitable, that the inventor would be a more astonishing character than the hero."

And in the same strain Theodore Parker declares:

"It would have taken a Jesus to forge a Jesus." "He pours out a doctrine beautiful as the light, sublime as heaven, and true as God. The philosophers, the poets, the prophets, the Rabbis—He rises above them all. Yet Nazareth was no Athens, where philosophy breathed in the circumambient air: it had neither Porch nor Lyceum; not even a school of the prophets. There is God in the heart of this youth." "Eighteen centuries have passed since the tide of humanity rose so high in Jesus: what man, what sect, what Church, has mastered His thought, comprehended His method, and so fully applied it to life?"

Even David Frederick Strauss, with all his mythical extravagances, is compelled to confess :

"To the historical person of Christ belongs all in His life that exhibits His religious perfection, His discourses, His moral action, and His passion. . . . *He remains the highest model of religion within the reach of our thought ;* and no perfect piety is possible without His presence in the heart."

Such are the tributes paid even by unbelievers to the supreme excellence of Jesus as a teacher of morals and religion, on the basis of the testimony of the four Gospels, regarded as uninspired documents. To the mind simply prompted by a desire to know the truth, and unembarrassed by the prejudices of theorists already committed to a denial of the supernatural, it may readily be seen how these testimonies are sufficient to inspire them with a faith like that of Peter, when he cried, "To whom shall we go? Thou hast the words of eternal life; and we believe and are sure that Thou art the Christ, the Son of the living God."

Having settled without inspiration this greatest of questions, we have now the true starting-point in search for unquestionable proofs of inspiration. On the voluntary admissions of such rationalists as we have quoted—and we could greatly multiply such quotations—it is apparent that Jesus, as the most highly inspired of our race, is the best judge of the inspiration of others. Where He recognizes inspiration, it would be presumptuous in those who recognize in Him the highest and deepest inspiration in spiritual things, to set up their feeble judgment against His. And on the part of those who are led, on the testimony submitted to them, to accept Jesus in His true character as the Christ, the Son of God, there can be no hesitation in accepting as inspired all that He accepts or promises as such. Thus, in this as in all other moral and religious problems, the solution is found in Jesus. He is the answer to every inquiry, the solver of all doubts, the final demonstration of every truth—"the Way, the Truth, the Life."

We are compelled to close abruptly, having already exceeded the time allotted to us. To show that Jesus did recognize the divine inspiration of the Jewish Scriptures, and that the inspiration of the New Testament Scriptures is involved in His promises to the apostles, would require another lecture, embodying the results of careful critical inquiry into His teaching. We must leave to our hearers the task of pursuing this inquiry for themselves.

A LETTER FROM MR. HORMUZD RASSAM.

[Remarks on Rev. Dr. Howard Crosby's observations on Mr. Rassam's paper which was read before the "American Institute of Christian Philosophy," on the 25th of October, 1883.]

Unfortunately I was not present when Dr. Crosby criticised my lecture, because I could have refuted, then and there, every stricture he cast upon my general capacity as archæologist and author, and not allowed his observations to be circulated without my answer. I had also the disadvantage of not seeing the proof of my paper before it was published, to enable me to make the necessary corrections.

I must take Dr. Crosby's animadversions in their regular order, and answer each separately.

Firstly, where did I confound Shalmaneser II. with Shalmaneser IV.? It was not my intention to enter minutely into the history of the four Shalmanesers, but I wished to point out the first of the Assyrian kings of that name who came into contact with the Israelites. Doubtless the mention in my lecture of the words of "the events recorded in the Bible" would lead the majority of readers to think that Shalmaneser of the obelisk was the same as the one who carried Israel captive, as Mr. Bonomi asserted in his work entitled "Nineveh and its Palaces," but the context ought to have shown that the words of *Jehu King of Israel*, were wanting after "tribute," mentioned in my lecture in the CHRISTIAN THOUGHT, page 131. I merely alluded to the deeds of Shalmaneser II., which are represented on the black obelisk found at Nimroud in connection with the Bible; as it is recorded on it, that he took tribute from the Israelites, and the very name of *Jehu* is mentioned amongst the vassal kings.

Secondly, I did not attempt to give the Assyrian rendering of the names of their kings, but pointed them out in their Hebrew or English nomenclature, as all Assyrian scholars have done in the case of Tiglath-pileser, Sennacherib, Nebuchadnezzar, and Cyrus. Thus, as it is supposed by Assyriologists, that Pul of the Bible was Iva Lush or Phulukh, who is mentioned in an inscription found at the mound of Nimroud, I enumerated him amongst the Assyrian kings mentioned in Holy Writ.

Thirdly, I never made Assur-benipal "the last of the Assyrian kings," but I merely said that "the latter Assyrian monarchy terminated with Assur-benipal," because after the demise of that monarch the whole Assyrian Empire was shattered, and his successor, whoever he might have been, had scarcely power to cope with the rebellion that broke out in the immediate neighborhood of Assyria proper. The demolition of the Assyrian supremacy was so sudden that not an atom of any Assyrian record has been found to show what took place after the death of Assur-benipal, or the renowned Sardanapalus.

Fourthly, I cannot make out what moved Dr. Crosby to think that I had identified Calah-Shirgat with Resen of the Bible. On the contrary I said, "Nimroud may or may not be Calah, but I certainly do disagree with regard to the sites of Resen and Rahaboth." Further on, I added, "My idea is that Calah of the Scripture is Calah-Shirgat, Resen is Nimroud, and Rahaboth is a site which I partially excavated on the right bank of the Tigris about fifty miles from Nineveh, and twenty miles from Calah-Shirgat." There is no reason because we found on a cylinder the name of the latter place to be "Asshur," which was founded, according to the theory of Assyriologists, about the 17th century, B.C., we are to conclude that it had no other appellation. There are now a large number of towns and villages in the lands of the Bible which are called by different names; amongst which are Jerusalem, Aleppo, Damascus, and Cairo, which are known respectively among the natives of that country as Elkidis, Halab, Sham, and Masr. If some Assyrian scholars identify Resen of the Bible with "Asshur," the present Calah-Shirgat, from Ris-eni, which has been found in some Assyrian inscription, I am not responsible for their theories; nor can I be held accountable for learned geographers and savants for identifying the same site with Resen from the notice given of it in the Targums of Jonathan and Jerusalem as "Tel-assar."

As far as I am concerned I never place implicit faith in the eccentric views of the so-called renowned scholars, whether upon Assyriology, philology, chronology, or geography; especially as regards the latter, as it has been proved to demonstration from my discoveries and observations that many sites which were considered to be in certain spots, I have found in other localities. I must confess I am very sensitive about any theory which is brought forward to contradict what I believe to be the Word of God; and I place greater faith in the chronological and geographical account given to us in the Old Testament than in any theory of man. If Dr. Crosby refer to the writings of Assyrian scholars, he will find that even for the last twenty-five years, they have been contradicting each other, and most probably will continue to do so.

Fifthly, it is not at all remarkable that a traveller who has seen with his own eyes and examined different ancient spots, should fail to recognize them in the same light as they appeared to others who jump at conclusions without having visited the ruins. I utterly reject the flimsy theory that Maggayir was Ur of the Chaldees, from whence Abraham came, and that the site of Paradise was at the mouth of the Persian Gulf, though eminent Assyrian scholars have gone out of their way to identify them as such.

Sixthly, I am quite at a loss to understand Dr. Crosby's insinuation about the allusion I made regarding Zoroaster's acquaintance with the Old Testament. This information I obtained from Faussett's "Englishman's Critical and Expository Bible Cyclopædia," published in London in 1878; and it is the first time that I have heard of this learned divine making "loose assertions," according to the theory of Dr. Crosby.

Last, but not least, it is very hard to understand what possessed Dr. Crosby to allude to the late Mr. George Smith in connection with my sphere of research. The deceased Assyriologist had his field of labor, which was the decipherment of the cuniform writing, and I have mine, in exploring ancient sites and discovering relics of the past; and it is certainly very novel to me, and to those who study the history of the Assyrian and Babylonian researches to learn for the first time from Dr. Crosby's remark that Mr. George Smith is considered to have been a "finder." He was, without any doubt, sent to Nineveh by the proprietors of the *Daily Telegraph* to search for a missing portion of the famous deluge tablet, discovered by me twenty years before; but what he found was recovered from Sir Henry Layard's old diggings and mine, both at Koyunjik and Nimroud.

H. RASSAM.

NINEVEH HOUSE, SPRING GROVE,
ISLEWORTH, December 10th, 1883.

NOTES BY REV. DR. CROSBY.

1. No one can read p. 131 and not suppose the Shalmanezer of the 15th and 21st line to be the same.
2. Pul and Vul-lush are not supposed to be the same by Assyriologists.
3. Convicts itself.
4. I didn't say he made Calah Shirgat to be Resen, but that he said *Assyriologists did*, and that his identification of it (as Calah) was defective.
5. I never said anything about Mugheir.
6. Faussett's Cyclopædia is not authority.
7. George Smith *was* a finder.

H. C.

NATURAL CHRISTIANITY.

[A Lecture delivered before the Summer School of Christian Philosophy, August 22d, 1883.]

BY HENRY DARLING, D.D., LL.D.,

President of Hamilton College.

TO those who confidently predict the speedy destruction of Christianity, it is pertinent to propose the enquiry, what is to follow so great a spiritual upheaval? And the answer that some would give to this question is without doubt, Atheism. This is the affirmation of all materialists; and must be the logical outcome of those theories which explain the origin of knowledge upon the supposition of a mere development. If mind is nothing more than the "sum of subject experiences," and conscience is "the imitation within us of a government which is without us," it is evident that we have dispensed very largely, if not entirely, with all need of an intelligent Creator. But this affirmation can never command anything like universal assent. Atheism has always been sporadic. The masses of mankind have never rejected the idea of a God. No historian from the days of Herodotus and Thucydides has furnished us the record of an Atheistic nation. And what has been true, on this subject, in the past, will be true in the future. The idea of God, even though the product of intellectualism, has so close an alliance with the intuitions, as to constrain us to regard its denial with a very serious suspicion of insincerity, or as in some way connected with a certain unsoundness of intellect. Men who, like

Shelley, have sank into blank Atheism, have not been content to stay there, but as of all modern poets this very Atheist is the most mythologic, " peopling his brain and the world with griffins and gorgons, and animated rings, and fiery serpents, and spirits of water and wind," so it is out of " the deep atheistic hunger of the soul" that in our day are exhaled the most fantastic and irrational shapes and forms of divinity.*

But the affirmation of Atheism to the question proposed insufficient, the same, I add, is true of what is sometimes called "the religion of humanity." James Parton, in an address recently delivered before the Nineteenth Century Club of New York, affirms that "the proper religion of an American citizen, is the United States of America." "To be a good American," is his language, "that will be the coming man's religion. This sublime experiment of freedom and equality, the best hope of the human race, let us stand by it, and live for it." And to the same purpose, only much more generic, are the affirmations of the most prominent English representative of this faith. "It is," says Frederick Harrison, "in the renunciation of the theological theories of man's relations to the Infinite, and in the surrender of dreams of immortality, that the hope of the race lies. Christianity has no lofty and generous ideal of the *secular* life of man. It may prepare him to be winged and crowned and clothed in white in a sphere unseen and future, but it utterly fails to prepare men for the duties of this life and this world." How preposterous! The whole history of Christendom disproves the assertion, and so does all philosophy. Whatever high and generous motives can animate the most unselfish and magnanimous in his endeavors to elevate the *secular* life of humanity, must act with immensely augmented force on him, who in serving his fellow man is also serving Christ. The Christian has motives for diminishing human wretchedness, and redressing human injustice, that in the nature of things, are entirely unknown and unfelt by any other man. He knows that the material and social environments of men affect in the gravest manner that ethical and religious life to which his faith attributes an infinite value. And further, in the presence of all the misfortune and wrong that appeal to him for relief, of the hungry, the sick, the naked, the ignorant, the victims of inequitable social institutions and of oppressive laws, he remembers those words of His divine Master, "Inasmuch as ye did it to one of the least of these My brethren, ye did it unto Me."

---

* "Nature of the Supernatural," p. 67.

But leaving these answers to the question proposed as altogether insufficient, we come to a third which is particularly worthy of a careful study.

In the year 1866, a book was published in England, and almost immediately republished in this country, which for a time greatly perplexed and startled the religious world. Its title was "Ecce Homo," and though published anonymously, its popularity was so great, and the impression it made upon the public mind so profound, that it was speedily followed by a large number of works, calling upon their readers to behold God and the heavens ("Ecce Deus," "Ecce Cælum") and almost every other object from which their authors supposed that valuable lessons could be drawn. Of that book, in its true design and purpose, it is not germane to our present topic to speak. I allude to it only for the reason that in its preface, the author promised by and by to take upon himself these same studies anew, and present us with a continued discussion of them. And this promise he has recently fulfilled. The author in 1866 of "Ecce Homo," now known to be the Professor of Modern History in Cambridge, John Robert Seeley, about a year since published a work entitled "Natural Religion," "a sad and singular book," as one reviewer calls it; a masterpiece of metaphysical ability and literary skill; a book in which we have presented to our attention an elaborate system of faith, which aspires to be the creed and Church of the future. Indeed, this work of Professor Seeley is said to be "the first book that has ever given a formal unity to those various elements which in the extra-orthodox world are supposed to constitute its future theology and religion." (*Edinburgh Review*, October, 1882.)

I propose in this paper carefully to consider this alleged substitute for a Christianity affirmed to be waning and dying. And what an honor is incidentally paid our holy Christianity by the name that our author has selected to designate his new faith.

It is a sort of Phœnix that is to spring out of the ashes of the old religion. It is a neo-Christianity. It bears to the faith of our day the same relation that the Platonism of Alexandria bore to that of Athens. To the question what is to follow that great spiritual upheaval, the destruction of our holy Christianity, Professor Seeley answers, not Atheism, or Polytheism, or any other faith now existing on our globe, but *Natural Christianity*. And the words are correctly chosen. *Natural* Christianity is Christianity with everything that is *supernatural* in it eliminated. It is a religion that professes to have nothing to do with dogmas, and that accepts of no proposition upon faith. It is a religion of positive science.

Let us carefully examine this new faith, the faith and Church of the future, Natural Christianity, enquire what it is, and how it will bear the ordeal of reason.

And here, true to his elimination from Christianity of everything that is supernatural, the author of Natural Christianity commences his system by rejecting all faith in the *personality of God*. But does not that lead us at once and logically to Atheism? Personality, involving self-consciousness, self-regulated intelligence, and self-determined energy, if that is wanting, is not God wanting? Can there be a *theism*, where there is faith in a "principle," "a causative force," "a great physical energy," but no faith in the possession by that principle, or causative force, or great physical energy, of any of the recognized attributes of a person? In John Stuart Mill's latest work, a critique on the Positive Philosophy of Comte, he says: "Though conscious of being in an extremely small minority I venture to think that a religion may exist without belief in a God, and that a religion without a God, may be, even to a Christian, an instructive and profitable object of contemplation." ("Comte," p. 133.) But surely a religion without a God is not any more an impossibility to faith, than is the idea of God entirely separated from all conceptions of personality.

But all this is just what the author of the system we are now considering stoutly denies. Indeed, here, he alleges, is an abuse of the word *Atheism*. Atheism is simply a disbelief in the *existence of God*. It has nothing to do with His, God's, *moral* character, or with any faith as to his distinctness from nature.

But denying the personality of God, what is the ***theism*** of this system, " that man believes," says Professor Seeley, "in a God who feels himself in the presence of a power which is not himself, and is immeasurably above himself, a power in the contemplation of which he is absorbed and in the knowledge of which he finds safety and happiness " (p. 18) ? Nature is such a power, and hence Nature in its unity is, according to this theory, *God.*

And here is the argument by which this strange theism is supposed to be supported. It consists of two parts: (1) The unity of nature is demonstrably possessed of many of those attributes which are ordinarily affirmed to belong alone to God. It is omnipotent, omnipresent, all-embracing, all-sustaining. To nature we may apply the same epithets that the Christian applies to God. The believer in a personal divinity affirms Him to be the sole author of his existence; the man of science declares the same thing to be true of nature. Of God the Christian says, " In Him we live and move and have our being," and it is with a conviction equally intense that we may apply to nature the same affirmation. Indeed, the author of the system we are considering, avers that nature is, as it were, a greater divinity than the personal God of the Christian. "In so many Christians," is his language, " the idea of God has been degraded by childish and little-minded teaching; the Eternal and the Infinite and the All-embracing, has been represented as the head of the clerical interest, as a sort of clergyman, schoolmaster, philanthropist. But the scientific man knows *Him* (that is, *Nature*) to be eternal; in astronomy, in geology, he becomes familiar with the countless milleniums of His lifetime. The scientific man strains his mind actually to realize God's infinity. As far off as the fixed stars he traces Him, ' distance inexpressible by numbers that have name.' Meanwhile to the theologian, infinity and eternity are very much of empty words when applied to the *Object* of his worship. He does not realize them in actual facts and definite computations." (P. 19.)

(2) And then as nature has these attributes of divinity, so does it excite many of those ***emotions*** which are generally regarded as excited by nothing but God. The infinite power of nature awakens ***awe;*** its beauty occasions ***delight;*** its wonder-

ful order constrains *admiration;* its revelation of laws, and the consciousness that happiness depends upon the careful adaptation of human life to them, commands *obedience.* Indeed, "a sense of personal connection, and as it were, relationship, a feeling which every believer in a personal God must have, is not wanting to the worshipper of Nature. He cannot separate himself from that which he contemplates. Though he has the power of gazing upon it as something outside himself, yet he knows himself to be a part of it. The same laws whose operations he watches in the universe he may study in his own body. Heat, light, and gravitation govern himself, as they govern plants and heavenly bodies." (P. 21.)

Such is the argument of the author of this neo-Christianity to prove that nature is God. Such is a theism that denies the divine personality. Is the argument sufficient?

It would be pertinent in reply to affirm that, although Herbert Spencer goes so far as to call the belief in the personality of God "impious," it is the opinion of many philosophers that no other conception of the Infinite, *than this*, is consistent with thought itself. "Our only means," says Professor Bowen, "of knowing the nature of an agent is to observe what it does. The bare notion of agency is empty of specification, and no analysis will reveal any content beyond the general category. What is true of all agency is especially true of mind. A mistake which flows directly from our general bondage to the senses leads us to fancy that we see our neighbor's minds; and it has generally been argued against theism that we see mind in man, but none in nature. This claim it is one of the first effects of psychology to dispel. We know that our fellow-beings have minds only because they act as if they had, that is, because their action shows order and purpose. But no one will claim that the system of things shows less order and purpose than human action. If, then, we deny mind in nature, there is no reason for affirming mind in man. Indeed, there is vastly more proof that the power which works in nature is intelligent than there is that men are intelligent." ("A Study of First Principles," p. 165.) "Belief in the *personality* of God and in the *personality* of man seem also to stand or fall together. Wherever faith in the first of these truths is wanting, the perception which men have of the last is indistinct. In all pantheistic religions the feeling of individuality is dormant. The soul indolently ascribes to itself a merely phenomenal being. It conceives itself as appearing for a moment, like a wavelet on the ocean, to vanish again in the all-engulfing essence from whence it came." (Professor Fisher in *Princeton Review*, July, 1882.)

But aside from this, to prove that the unity of nature is God, of what logical force are those two facts upon which the author of Natural Christianity puts so much stress? Thus, nature, omnipotent, omnipresent, all-pervading, all-embracing—does that make nature God? Are any two things essentially the same because they may possess in common some, or even many, attributes? Is a corpse a living man, because a large part of your description of the one may, with equal propriety, be employed as a description of the other?* Professor Seeley speaks of the *unity* of nature as possessing these divine attributes, but cannot we predicate the same thing of very many detached portions of nature, or rather of very many of its forces? Is not gravitation omnipotent and omnipresent? If you should ascend up into heaven, would it not be there? Should you make your bed in the grave, would it not be there? Can you possibly escape from this influence? Is it not all-pervading, all-embracing? Why then is not gravitation God, and why, after all, is not the true theology polytheistic?

But then the unity of nature possessing some of the attributes of God, of how many is it entirely wanting? Theism affirms the divine omniscience. God is all-knowing. Theism affirms the divine justice, goodness, mercy, truth. Has the unity of nature anything that corresponds to these?

And substantially the same train of thought may be pursued with regard to the other argument adduced to prove that the unity of nature is God, viz., the emotions that it, nature, excites, and the alleged fact that these emotions are those (or are similar to those) which Christians have always maintained can be excited by nothing but God. When the author of Natural Christianity tells us that "Linnæus fell on his knees

* See this figure, *Edinburgh Review*, October, 1882.

when he saw the gorse in blossom; Goethe, gazing from the Brocken, said, 'Lord, what is man that Thou art mindful of him; Kant felt the same awe in looking at the starry heavens as in considering the moral principle, and that Wordsworth was inspired rather amongst the mountains than amongst human beings" (p. 81), we are all ready to concede not only that such feelings are natural, but that they have and do repeat themselves continually in the experience of our humanity. But are such feelings of *awe*, *reverence*, admiration, the only, or even the principal, emotions that a pure and spiritual theism must awaken in every mind? Behold the *filial affection* that believers in such a theism have expressed! "*Thee having not seen*," "*we love*." Behold the aspirations after purity and likeness to Himself, and finally for a dwelling place at His right hand in glory, that this personal God excites in the human soul. "I will be satisfied when I awake in Thy likeness I am in a strait betwixt two, having a desire to depart and be with Christ, which is far better." Behold that wonderful revelation of personal sinfulness and demerit, that an apocalypse of the true God makes to the soul. Hear the exclaim, "Woe is me. I am undone. I am a man of unclean lips, and I dwell in the midst of a people of unclean lips," when an old prophet saw the Lord sitting upon His throne high and lifted up. Indeed, more than this is true. *Nature*, in the emotions that she excites, is very largely depended upon the religious faith of the beholder. Is the universe the manifestation and abode of *Free Mind*, does it embody in all its adjustments His personal thought, and in its phenomena does it realize His own ideal? Are the grandest natural agencies the servitors of a grander than themselves? The winds, are they His messengers, and the flaming fire, is it His minister? Then not simply on its own account, but as the autobiography of the Infinite, does nature evoke awe, delight, admiration, love. Cowper, speaking of the delightful scenery of the world, its "mountains, valleys and resplendent rivers," *very justly* asks if, of the Christian,

> "They are not his by a *peculiar right*
> And by an *emphasis* of *interest his*,
> Whose eye they fill with tears of holy joy,
> Whose heart with praise and whose exalted mind

With worthy thoughts of that unwearied love
That planned, and built, and still upholds a world,
So clothed with beauty for rebellious man."

But passing the strange *theism* of Natural Christianity, it is of still greater moment that we should notice the *religion* that this creed and Church of the future proffers for our acceptance. To the distinction that Professor Seeley makes between *theology* and *religion* we see nothing to object. "By *theology* the nature of God is ascertained and false views of it eradicated from the understanding; by *religion*, the truths thus obtained are turned over in the mind and assimilated by the imagination and the feelings." (P. 50.) But accepting this distinction, we have in the theism of Natural Christianity, as already developed, its *theology*. The unity of nature, God, the theology of this new faith, consists altogether of the generalizations of the natural sciences. Whatever in the study of nature they teach, is the theology of Natural Christianity. And so of the *religion* of this creed and Church of the future. It is, according to the distinction which we have just made between theology and religion, these generalizations of the natural sciences, when grasped by the imagination and through that acting on the emotions. How strange *a religion this!* The derivation of the word seems to forbid its acceptance. If from *religo*, to rebind, or, to bind anew the human spirit, to its Author and Father; or, as Cicero in his "De Natura Deorum" affirms (11-28), from *relego*, to ponder seriously and intently the things which belong to the gods, religion is more than mere feeling. It is feeling excited by some particular object, by some superhuman personality, which takes cognizance of the human feelings excited by it. It is the interior and domestic tie which makes a united family of the finite and the infinite. You cannot have a religion without worship, but how can anything impersonal, both in reality and thought, be worshipped, save in an entirely figurative sense?

But not to press this consideration, but to regard the generalizations of science grasped by the imagination and acting on the emotions, as religion, it remains for us carefully to examine this religion, and especially to compare it with that which it is predicted to supplant. And as altogether independent of the supernatural, Professor Seeley affirms that "the one scientific theology, in passing through the prism of the imagination," reaches the moral being in three religions, or rather in three varieties of the same religion. These are respectively the religion of Nature, of Beauty, of Humanity. In the first two the reference is to cosmic emotions, to those feelings which nature as one grand unity excites, or which is awakened by the contemplation of its individual objects. The first of these religions, that of Nature, is supposed to be largely represented in the Monotheism of the Jews; the last, that of Beauty, in the sensuous nature-worship of the Greeks. And now as the fact that *Nature* excites these emotions is used as an argument to prove (as we have already seen) that nature is God, so are these emotions still further affirmed in themselves to constitute religion.

We have, then, in considering the *religion* of Natural Christianity, first of all to consider the religion of the cosmic emotions, or, in other words, the religion of nature and beauty. And these emotions, as excited in an imaginative and poetic mind, are perhaps no where so well expressed as by Wordsworth, "the saint," as Professor Seeley calls him, "of the religion of nature and beauty":

"And I have felt
A presence that disturbs me with the joy
Of elevated thoughts: a sense sublime
Of something far more deeply interfused,
Whose dwelling is the light of setting suns,
And the round ocean, and the living air,
And the blue sky, and in the mind of man:
A motion and a spirit, that impels
All thinking things, all objects of all thought,
And rolls through all things.

"Therefore am I still
A lover of the meadows and the woods
And mountains; and of all that we behold
From this green earth; of all the mighty world
Of eye and ear; both what they half create
And what perceive, well pleased to recognize
In nature, and the language of the Sense,
The anchor of my purest thoughts, the nurse
The guide, the guardian of my heart and soul,
Of all my moral being."

Exquisite poetry, this. But what of it as a religion? I should answer first of all that this description of the emotions that the cosmos excites is partial and imperfect; that it is not the whole truth, but only a portion of it; that the cosmos is not all radiant and harmonious, but oftentimes savage and chaotic. "See nature," says Frederick Harrison, "at its richest on the slopes of some Andes or Himalayas where a first glance shows us one vision of delight and peace. We gaze more steadily; we see how animal and vegetable and inorganic life are at war, tearing each the other; every leaf holds its destructive insect; every tree is a scene of torture, combat, death; everything preys on everything; animals, storms, suns, and snows waste the flower and the herb; climate tortures to death the living world, and the inanimate world is wasted by the animate, or by its own pent-up forces. We need as little think this earth all beauty as think it all horror. It is made up of loveliness and ghastliness; of harmony and chaos; of agony, joy, life, death." (*The Nineteenth Century*, August, 1881.) "There is in nature a mass of things, that are appalling, almost maddening to man." (*Ib.*) But this is only one answer to this religion of the cosmic emotions. Suppose we take another. Mr. James Parton, in that address on "The Coming Man's Religion," to which I have had occasion already to refer, says that he has two kinds of thoughts respecting religion, "my library thoughts and my kitchen thoughts." "In the library, particularly in the alcove of history, religion seems," he says, "the shame and torment of our species. But come into the kitchen and what do you there see? A lonely, laborious woman, standing at her tub of duty from 4 A.M. on Monday to 9 P.M. on Saturday. During that long week she lives with her pots and kettles, her soap and suds, attending other people's children, cooking other people's dinners, hearing other people's laughter, witnessing happy, natural, interesting life, but shut out from it by a wall as impassable as it is transparent. On Sunday morning it is *religion* that compensates her. . . . It is a tie that connects her poor, dim, hard life with the universal life. Religion is home to her who has no home. It is father and mother, brothers and sisters to her. It is the hope of re-union with them. It is the one thing that makes it worth while for her to go through another week of wash-tub and gridiron, and the biting tongue of that fellow Christian, her mistress."*

Mr. Parton is right, and his kitchen's thoughts are more philosophical and truer than his library thoughts. A religion is to be estimated by its results, by what it can and does do for its possessor, in any of those crises of life, to which we are all necessarily and continually exposed. And will you thus test the religion of the cosmic emotions? A human heart is wrung with pain; a parent watches the child of his old age, sinking into vice; a widow is crushed by the loss of her husband, or the destitution of her children; a great thinker breaks down with toil and unrequited hope, and you " talk of the beauty of sunsets, or of the universal order, or of the teaching of the *Anima Mundi*, or of the sum of all things." How vain! Aye, more. What a solemn mockery is such speech! It is, to employ a figure of the author just quoted, "like offering roses to a famished tiger, or like playing a *sonata* to a man consumed by a burning fever."

But with that theism which affirms the unity of nature to be God, there is, according to the theory we are now considering, a third religion, the religion of Humanity. And by this is meant, not that religion of which under the same name I have already spoken, and which has no recognition whatever of the divine word, but "Christianity with the supernatural part subtracted from it." "This religion contains," says Professor Seeley, "all the brotherly love, the willingness to spend and be spent for others, the hope, the charity, the admiration for moral excellence that Christ taught, appealed to and awakened in the mind of the Christian world. It is *rationalized Christianity*" (p. 76). It is the rejection of the *shell* of our holy religion, but the retention of the *kernel*. It concerns itself with questions of right and wrong. It recognizes everything that is morally good in man, and consists in its admiration and imitation.

With regard, however, to the creed and Church of the future, it should here be added that it is not, according to the theory we are now considering, to be *exactly* this religion of humanity, that is, exactly Christianity, with, as we have just said, the supernatural part subtracted from it. No; this religion of humanity, as to its general moral tone, is to be modified by those two other religions, which we have already noticed, the religion of nature and of beauty. Christianity has now, we are told, something of the sickliness, and something of the faults of early youth. It has "a melancholy view of life, a disposition to think rather of purity than of justice, and an intolerance of all limitations either in hope or belief." *This it is to outgrow.* Christianity is to pass from this stage of youth into the healthier stage of manhood. It is to recognize the religion of nature by listening with reverence to nature as God, and by regarding no dogma as final. It is to recognize the religion of beauty by frankly accepting all the joy that comes to us from color, light, form and melodious sound.

---

* Report in the New York *Tribune*, April, 1883.

But now, of this religion of humanity, or of this attempt to separate "*the* preceptive teachings of Christianity from its alleged supernaturalism," what shall we say? Is the proposed separation possible? The morality that our blessed Saviour taught; the lessons of brotherly love that He inculcated; the universal charity and good-will that He commanded, according to the system we are considering, the religion of humanity, can you take away from these all conception of the speaker as a superhuman, or in any sense as a divine personage? The religion of nature, affirmed essentially to be the Monotheism of the Jews, and the religion of beauty, the Greek Polytheism, never taught such a morality or commanded such a charity. Judaism regarded very largely an obedience to the mere letter of the law, and was a vast system of rigid exclusivism; and the Greek Polytheism, countenancing the foulest of now nameless vices, had not at the Advent a single word in its copious, classic, and courtly tongue, to express *love*, which had not been so perverted to unworthy uses as to unfit it for the chaste and pure spirit of the Gospel of Christ. How came it then to pass that this "religion of humanity," was given to the world *alone* by this man of Nazareth; that an obscure citizen of an obscure country was not simply wiser than all the savans of earth, but that He did, for the revelation to our world of those grand ideas of *humanity* and *fraternity*, that compared with which everything that modern science, political theories, commerce, philosophy has, or may achieve, must be counted as a very small supplement? (See Blackie's "Four Phases of Morals," p. 219.) The problem is incapable of any rational solution, save as you believe in the superhuman character of this wonderful teacher. You cannot, then, I affirm, separate Christianity from the supernatural. You cannot make the subtraction that this system proposes. You cannot in this sense *rationalize* Christianity. The connection that binds these two things together is indissoluble.

But take another view of this same truth. The divine paternity, and the immortality of man, truths of natural religion, are clearly discerned only in the light of revelation, or rather, are positively known only by the teachings of the Lord Jesus Christ. These two truths belong then to the realm of the supernatural. But without them and an abiding faith in them, how utterly impossible in this world and among men is any practical recognition of an equality of right and privilege.

"Take away," says Professor Peabody, "men's common parentage and common destiny, lop off from the column of human existence its base and its capital, and you leave them with nothing in common, with no points of union or of sympathy. They diverge widely from very birth; they differ greatly from one another in the outset of existence; they come together only beyond the grave. If they are not traced from a common Father, and to a common destiny, then these earthly differences are all in all, and they lay a fair and just foundation for the greatest conceivable extortion and oppression. Unless mankind be one family in origin and destiny, might is right, selfishness is duty, society has no bond, imposes no mutual obligations, and the whole community naturally and necessarily divides itself into the two great classes of the preying and the preyed upon." ("Christianity the Religion of Nature," p. 233.)

But suppose we admit that the supernatural might be eliminated from Christianity, and that thus we might have what Professor Seeley calls the religion of humanity. How long would religion survive so unnatural a separation? That there has been a great deal of professed philanthropy in this world, entirely apart from Christian faith, we all know. Neither are we unfamiliar with the result. The picture that the author just quoted has painted of godless philanthropy, is one that we have all looked upon. (1) It has been partial. It has been earnest in its advocacy of some one cause of charity, but indifferent, or positively hostile to others. (2) It has had oftentimes blended with a kind and generous spirit, a large infusion of bitterness and rancor. Out of the same mouth has proceeded blessing and cursing. It has been remarkable for its censoriousness. It has dealt very largely in anathemas. (3) It has been short-lived. The zeal that it invokes has been flickering. Its light has been intermittent. Without love to God, love to man grows languid. What was heart-work at the outset soon lapses into tongue-work, or hand-work, and as tongue or hand for lack of heart grows weary, it either sinks into utter inertness, or if kept in motion by habit or pressure from without, it pursues its routine peevishly and fretfully because reluctantly (p. 205). (4) It seldom, perhaps never, attempts great and self-denying charities. All that broad, persistent and long-suffering love of man that has attested itself in the work of modern missions, that has led highly cultured men and women, separating themselves from the endearments of home, to spend their days amid the vile kennels and rubbish heaps of humanity, has been born of that faith which sees in every man, however degraded and imbruted, the lineaments of a brother, and a common heirship to immortality.

Nor is it only by abstract statements, such as have just been made, that we may see the result of this attempted separation from Christianity of everything that is supernatural. The same truth appears most painfully in actual history. When the irreligious philosophy of the eighteenth century proclaimed itself the friend of popular rights, and in the overthrow of Christianity promised all the people liberty and equality, what was put on trial before the world but this very religion or humanity? Danton, Marat, Robespierre were its high-priests; and what was the result? Did popular rights prevail? Was there any realization of that boasted fraternity? Was the cause of human emancipation promoted by this supposed destruction of Christianity? The issue is most instructive. The very opposite of all this transpired.

Freedom was utterly subverted. Liberty, equality, fraternity became empty words. The carnival of professed philanthropists changed to the carnage of fratricides. Honor, honesty, chastity seem to flee like Astrea of old from the earth, while fraud, cunning, perfidy, avarice creep like a chill malaria through all the highways of society. France was engulfed in a whirlpool of democratic tyranny, and that very people who so eagerly sought the destruction of Christianity, that the so-called religion of humanity might take its place, afterwards officially declared that "experience had taught them that the despotism of the people was as insupportable as the tyranny of kings." (Alison's "History of Europe," Vol. II., p. 383.) And it must be so always. Humanity, as an active sentiment, cannot live without Christian faith; and all godless reforms from oppressive tyrannies become of necessity the genius of ruin.

But leaving here our examination of this creed and Church of the future, Natural Christianity, in any of its details, there are two or three remarks which ought to be made of the system considered as a whole; and the most obvious of these is its *Pantheism.* That the system we are considering commences with a denial of the divine personality we have already seen; but is not that Pantheism? If God is not a person, independent of and separable, at least in thought, from nature, is not nature God? Philosophers speak of "Material Pantheism" as the lowest form of that faith, indeed as scarcely deserving the name (McCosh's "Intuitions," p. 396); but is not that the very form of Pantheism that this whole system of Natural Christianity advocates? It is the mere *matter* of the universe, "the unity of nature," according to Professor Seeley, with its forces as the result of organism, which constitute the all-inclusive, all-embracing God. But against this charge, it should be added, that our author stoutly defends himself. "It is an error," he affirms, "to identify this theory with Pantheism." But with this disavowal how strange and suspicious is it to hear our author say that men have been *misled* by the idyllic associations of the word Nature and the syllable *Pan,* have indulged irrelevant fancies upon this subject" (p. 78), and that even from the Bible itself it is easy to quote pantheistic language. "Both in Judaism and Christianity," Professor Seeley adds, "the word God is used for the most part in the large indeterminate sense, . . . and many have found that they received a new revelation of the sublimity of the Bible when first they learnt to use the word 'God,' in what may be called its natural sense" (p. 84). But how utterly mistaken are conceptions such as these of this doctrine of the divine personality! Its denial sweeps the world clean of a historical Christianity. It binds up all the physical and moral movements of the world in one unbroken chain of necessary development. It strikes boldly at the religious intuitions of the great heart of humanity, and through its want of practical power is an inlet to hostility, fraud, cruelty, and all varieties of crime. "No theory of practical morals," says Professor Uphan, "has ever been constructed on the basis of the impersonality of God, which is available against the mighty evils that continually imperil man's social condition. The audacity of wrong and crime is not frightened by an abstraction. . . . If it were possible for impersonality to leave us a God at all, it would be a God with no eyes to see, and no ears to hear, and no hands to handle, and no head to think, and no heart to feel, and no will to execute; a God, in any light in which it is possible to consider Him, without a voice to cheer us in our efforts to do right, and without a hand to help us against the dangers which would certainly assail and overwhelm us." ("Absolute Religion," p. 31.)

But this system of Natural Christianity, considered as a whole *pantheistic*, is still further a form of *positivism*. Nothing can be plainer than this. Our author speaks of the "*party of faith*," and the party of "*positive science*," placing the two over against each other and in the sharpest antithesis; discourses of the "blessed light of modern science under which we live, and whose voice is the unerring voice of truth;" and in asserting that Christianity has failed, explains its failure upon the ground that it founded itself, or had been founded by its advocates, upon *dogmas*. Indeed religion has, we are told, nothing to do with dogmas. It is independent of them. It accepts no proposition which, though evidence may support it, must be assented to upon grounds deeper than evidence, that is by faith. But what is all this but the baldest positivism? "We know nothing but phenomena, their co-existences and successions," says Comte. "All attempts," says Herbert Spencer, "hitherto made to cross the confines of phenomena have been failures." And the sentiment that these words express embody the whole spirit of this creed and Church of the future. There is in "Natural Christianity" no room for faith. The doctrine of a future life, "the head and mighty paramount of truths," as Wordsworth calls it, Professor Seeley cannot affirm, because it cannot be proved by positive science. The religion here described in his language does not brood over a future life, but is intensely occupied by the present; it does not surmise something beyond nature; but contemplates nature itself. It does not worship a power which suspends natural laws, but the power which is exhibited in those laws.

A single remark more and I will close. A writer in the *Edinburgh Review*, in speaking of the advocacy by Professor Seeley of this creed and Church of the future, Natural Christianity, and in quoting from it the sentence, "Apart from pessimism there is nothing to prevent us from worshipping," adds, "He seems to *wince* at the very sound of that word pessimism. And all his fellow-champions are in like case with him. There is one foe which they cannot face, and that foe is pessimism. . . . Not one of them can confute the argument of this philosophy. Instead, they some of them drown it in uproarious denial. Some of them try to smile, as though they had never heard it, and some unintentionally, are forced to admit its truth." (October, 1882.) And is not this true? Is not a sort of practical pessimism the inevitable outcome of all this system of faith? "If you would see," says Professor Alexander, "the metaphysical antecedents of pessimism you will find them in the Pantheism of Spinoza; if you would discover its ethical antecedents, you will find them in the religious unbelief of Hume and Voltaire." (*Princeton Review*, March, 1878.) "Without a positive apprehension," says James Martineau, "of a *better than our best*, of a *Real*, that dwarfs our *Ideal*, of a Life, a Thought, a Righteousness, a Love, that are the *Infinite* to our *Finite*, there is nothing here to revere, nothing to keep the soul from despair. To fling us into bottomless negation is to drown us in mystery and leave us dead." ("Essays," p. 212.) But there is no necessity on this point for argument, or even for any enlargement. Pessimism, as the inevitable outcome of this whole system of Natural Christianity, is by no one more clearly apprehended than by its author. And as in closing the strange volume, in which Professor Seeley advocates this system, he sees, in his own language, "Pessimism raising its head," it seems as if he were himself ready to overturn that whole edifice which he had so sedulously been erecting. How plaintive, if not repentant, are his words: "The more our thoughts widen and deepen, as the universe grows upon us, and we become accustomed to boundless space and time, the more petrifying is the contrast of our own insignificance, the more contemptible becomes the pettiness, shortness, fragility of the individual life. A moral paralysis creeps upon us. For a while we comfort ourselves with the notion of self-sacrifice; we say, what matter if *I* pass; let me think of *others*. But the *other* has become contemptible no less than the self; all human griefs alike seem little worth assuaging, human happiness too paltry at the best to be worth increasing. . . . Life becomes more intolerable, the more we know and discover, so long as everything widens and deepens except our own duration, and that remains pitiful as ever. The affections die away in a world where everything great and enduring is cold; they die of their own conscious feebleness and bootlessness." (P. 250.)

Supernatural religion met this want by connecting *love* and *righteousness* with *eternity*. If it is shaken how shall its place be supplied?

SOME QUESTIONS CONCERNING HEREDITY, ENVIRONMENT, AND RELIGION.

[An extract from a paper read before the Monthly Meeting of the American Institute of Christian Philosophy, 28th February, 1884.*]

By Rev. Amory H. Bradford,

Montclair, N. J.

I. In what sense is there a law of Heredity? Laws in nature are known only as the result of processes of deduction: From the phenomena of nature and life something is inferred behind those phenomena regulating their appearance. That something in obedience to which similar phenomena result from similar conditions, in our ordinary speech we call laws. Every fact has been declared to be a grouping of laws. Ribot has a striking passage exactly appropriate here: "Let us suppose all the facts of the physical and moral universe reduced to a thousand secondary laws, and these to a dozen primitive laws, which are the final and irreducible elements of the world; let us represent each by a thread of peculiar color, itself formed of a collection of finer threads; a superior force—God, Nature, Chance, it matters not what—is ever weaving, knotting, and unknotting these, and transforming them into various patterns; for it these are the only reality—beyond them it knows nothing, suspects nothing. But the man of science sets to work; he unties the knots, unravels the patterns, and shows that all the reality is in the threads. Then the antagonism between fact and law disappears; facts are but a synthesis of laws, laws an analysis of facts. . . . We must now inquire whether among the many threads the interweaving of which constitutes the facts we have cited, any one is common to the entire group. To speak more clearly, the question is whether Heredity is a law of the moral world, or whether the many instances already quoted are only isolated cases resulting from the fortuitous concurrence of other laws." (Ribot, pp. 136, 137.)

---

*This paper is supplementary to a lecture on the same subject delivered at the Summer School at Atlantic Highlands, in 1883, which will in due time appear in a different form.

It needs no profound scientific research to discover how heredity works, and I ask you to observe certain easily verified facts.

(1) By the act of generation all that distinguishes *species* as *species* is invariably transmitted according to the law, "like produces like." Birds always produce birds; monkeys, monkeys; fish are the children of fish, and human beings invariably spring from human parents. No question is ever raised concerning the immutability of the law, "like produces like," so far as it concerns the transmission of the characteristics of the *species*.

(2) *Race* peculiarities are also invariably transmitted. The child of Caucasian parents—of the pure stock—is always Caucasian in form, in figure, in mental aptitudes, in moral tendencies. "A spaniel was never produced by a bull-dog," nor a canary by an eagle. A Shetland pony never gives birth to an Arab steed, nor a Southern mustang to the great dray-horses whose legs of iron transport the produce of our cities. White parents with no African blood in their veins never have negro children, nor *vice versa*. "This holds good also of physical qualities; a given animal possesses not only the general instincts of the species, but also the peculiar instincts of the race. The negro inherits not only the psychological faculties which are common to all men, but also a certain peculiar form of mental constitution, viz., an excess of sensibility and imagination, sensual tendencies, etc." (Ribot).

(3) *Individual* characteristics are also hereditary. The aquiline nose of the Bourbon family, the fecundity of the Guises and Montmorencies, the turn for natural history among the Darwins and the faculty—not to say genius—of the Bachs for music are too well known to need more than a mention. On the fact that purely individual characteristics are hereditary is built the whole system of life insurance. A consumptive parent, explain it as you please, is supposed to entail a tendency to consumption to his offspring. I have a friend who was refused life insurance in

one of our largest companies, because his mother died of consumption, although he was himself a strong man, and although his father was strong and vigorous at nearly seventy. That fact was supposed to vitiate the risk, and he was rejected. It is expected that children will resemble their parents or not very remote ancestors. Therefore, I think we can say, with Ribot, " In conclusion, heredity always governs those broadly general characteristics which determine the species, always those less general characteristics which constitute the variety, and often individual characteristics. Hence the evident conclusion that heredity is the law, non-heredity the exception. Suppose a father and mother—both large, strong, healthy, active and intelligent—produce a son and a daughter possessing the opposite qualities. In this instance wherein heredity seems completely set aside, it still holds good that the differences between parents and children are but slight as compared with the resemblances " (pp. 144–45).

Heredity acts in four ways :*

(1) *Direct Heredity*, when the qualities of both parents are transmitted to their offspring.

(*a*) When the child takes after both parents equally—something very seldom witnessed. This, however, would be the ideal of the law.

(*b*) When the child takes after both parents, but more especially resembles one of them. Here we must distinguish between two cases:

1. When the heredity takes place in the same sex.

2. When it occurs between different sexes—the more common form.

(2) *Reversional Heredity—Atavism*—consists in the reproduction in the descendants of the moral and physical qualities of their ancestors. It occurs frequently between grandfather and grandson, grandmother and granddaughter.

(3) *Collateral or Indirect Heredity*, which is of rarer occurrence than the foregoing, subsists, as is indicated by its name, between individuals and their ancestors in the indirect line—uncle, or granduncle and nephew, aunt or niece.

(4) *Heredity of influence*—very rare from the physiological

---

*Ribot.

point of view, and of which probably no single instance is proved in the moral order. It consists in the reproduction in the children by a second marriage of some peculiarity belonging to a former spouse.

It is not within the scope of this paper to show that this classification is correct. It rests on an extended induction of facts which have been made with great care by such general investigators as Lamarck, Darwin, Mivart and Wallace, and such special students of Heredity as Lucas, Morel, Ribot, Galton, Elam and Brooks.

Direct Heredity. Probably there are no cases of direct Heredity, ideally considered; that is, where each parent is equally represented in the child. There are so many disturbing conditions as to make this impossible. The most that can be affirmed is that there is always a preponderance in the child of one of the parents.

Brooks in his recent book on Heredity explains the whole subject of variation by supposing that the conservative powers belong to the female, and the active to the male, and, therefore, that heredity is always in the female line, and the tendency to variation in the male line.

The position of Schopenhauer in his purely metaphysical system is substantially the same, although his starting-point is antipodal. As interpreted by Ribot, his position is as follows: Whatever is primary and fundamental in the individual—character, passions, tendencies—is inherited from the father; the intelligence, a secondary and derivative faculty, is inherited from the mother. He imagined that in his own person he found irrefutable evidence of this doctrine. Intellectual and subtle, like his mother, who had literary tastes, and lived in Goethe's circle at Weimar; he was like his father, shy, obstinate, intractable; he was a man of scowling mien and fantastic judgment.

Much has been written about sons resembling their mothers and daughters their fathers. A careful examination of such a series of statistical tables as Galton's shows that the reverse is so often true as to vitiate all theories which rest on that foundation. Ribot (p. 155) gives a curious instance showing that sometimes one of the parents transmits the entire physical, the other the entire moral nature. He says: " The most curious and incontestable instance of this is the case of Lislet Geoffroy, engineer in Mauritius. He was the son of a white man and a very stupid negress. In physical constitution he was as much a negro as his mother; he had the features, the complexion, the wooly hair, and the peculiar oder of his race. . . . He was so thoroughly a white, as regards intellectual development, that he succeeded in vanquishing the prejudices of blood, so strong in the colonies, and in being admitted into the most aristocratic houses. At the time of his death he was corresponding member of the Academy of Sciences."

In Washington Territory I myself saw an instance which seems more like the inheritance by a daughter of the entire nature of her father. The young woman, about thirty years of age, was one of the most beautiful, in form, in feature, in complexion; one of the most attractive in speech and graceful in manner of any person I ever met. Imagine my amazement when I was shown her mother—a stupid, old squaw, who seemed hardly more than an inert mass of fat. The young woman was the daughter of an officer of the Hudson's Bay Company, and this squaw whom he had married. In any drawing-room in the world the daughter would have attracted attention by her beauty, and she no more resembled her mother than a lily resembles a heap of sand. In cases of direct heredity all that can be said is that in a child there is a "more or less marked predominance of one of the two parents."

Atavism.—When a child instead of resembling his parents, resembles one or the other of his grandparents, or even some distant member of a collateral branch of the family, this is called Atavism. I will glean from different writers a series of illustrations. Plutarch mentions a Greek woman who gave birth to a negro child, and was brought to trial for adultery, but it transpired that she was descended in the fourth degree from an Ethiopian. I have read, somewhere, of a negro woman who gave birth to a white child, and was terrified at what she supposed would be the inference of her husband until he told her that his father was white, and that, for many generations, there had been a white child in some branch of the family.

Atavism appears in the silk-worm after more than a hundred generations. *Indirect heredity* is another form of Atavism and needs only a mention, and an explanation. "Indirect heredity is the representation of collaterals in the physical and moral character of the progeny. We often observe between distant relatives, out of the direct line of descent—between uncle and nephew, aunt and niece; granduncle, and grandnephew, and cousins, even in the remoter degrees—striking resemblances of conformation, face, inclinations, passions, character, deformity and disease." (Ribot, pp. 170–71.) The only illustration I will give of indirect heredity is a quotation from Quatrefages (Ribot, p. 172). He says: "I am acquainted with a family into which married a grandniece of the illustrious Balli de Suffren Saint Tropèz, the last French commander in the great Indian war, against the English, with Hyder Ali for his ally. This lady had two sons, the younger of whom, judging from a very fine portrait, bore a very striking resemblance to his great-great-uncle, but was not at all like his father or mother. The celebrated sailor, therefore, and his great-great-nephew, reproduced, with an interval of four generations between them, the features of a common ancestor. Plainly atavism acted here in both branches, for in this case there is no direct heredity."

Of the heredity of influence I will not speak. It has no special bearing on the present line of thought. Beyond all question there is some force at work in nature which so manipulates the threads of our humanity that children are usually like parents, or ancestors. Galton's tables while they do not prove the heredity of genius do prove the heredity of almost everything else. They are invaluable up to the simple question of genius. By a law of heredity we mean just what we mean by any other law of growth in nature. What is sown is reaped. Like produces like in all spheres where reproduction is known. It is so in vegetable, in animal, and in human life. It is as invariable in one sphere as in another. Its existence comes as near to a demonstration as any fact outside the realm of mathematics.

II. Is heredity a law of mind as well as matter? It has been affirmed that heredity operates in the sphere of matter but not in that of mind. This affirmation rests upon a superficial study of facts. The investigations of biologists have been devoted to physiological rather than psychological phenomena; but another class of investigators have, with equal care, studied the action of the law in the region of mind. This inquiry fronts at once the questions at issue between materialists and spiritualists; but the answer is unaffected by that discussion. If mind is the product of matter, and heredity is a physiological law, then of course it concerns the whole man. But if the spiritual nature is independent, if it dwells in the body as a man in his house, then there are distinct phenomena to which the appeal can be made. If there is a mutual relation between the body and the mind, if each modifies the other, and heredity is a law of the material organism, then it must also be a law which so intimately concerns the mind's action as to make its observation essential to any scheme of spiritual philosophy.

If heredity can be proved to be a law determining, in any degree, physical characteristics, it can, with equal certainty, be proved to be a law affecting the nature of the mental organism. The investigations of Galton are almost all in the sphere of mind. It is not important at this point to ask whether he has succeeded in showing that genius is hereditary. He has certainly shown that mental and moral characteristics are hereditary; that a child resembles his parents quite as closely in his mind as in his body.

In tables illustrating the heredity of the imagination, I find a list of fifty-one of the most eminent poets of the world, and of that number twenty-two are known to have had illustrious relatives. Probably many more of them had relatives who possessed the soul of genius but without the opportunity for its manifestation. Burns had his mother's sensibility. Of Byron, an author unknown to me says, "If ever there was a case wherein hereditary influence could be pleaded as an excuse for eccentricity of character and conduct, that case was Byron's. His daughter, Lady Lovelace, was distinguished for her mathematical abilities; his grandfather, Admiral Byron, was an author of travels; his father, Captain Byron, was a man of dissolute habits."

Coleridge was a poet and metaphysician. The following abridged list of his descendants is taken from Galton: His son Hartley, poet, a precocious child whose early life was characterized by visions. His imagination was singularly vivid, and of a morbid character. He also inherited his father's love of stimulants. The Rev. Derwent, author, late principal of the Chelsea Training College. The daughter, Sara, possessed all her father's individual characteristics, and was also an author. She married her cousin, and of this union was born Herbert Coleridge, a philologist. If now the line of heritage in which Goethe, Hugo, Milton, etc., is studied, it will hardly need an argument to show that heredity works among the poets. Among the artists may be studied the families of Bassano and Bellini, Paul Veronese, Carracci, Murillo, Raphael, Teniers, Titian, Van Dyck, Van Der Velde.

Among musicians the families of the following illustrate the operation of the law:

Allegri, author of the "Miserere," was of the same family as Correggió the painter; and the art principle is probably one whether it manifest itself in rythm, in color, or in sweet sounds.

Amati, Andrea, was the most illustrious member of a family of violinists at Cremona.

The Bach family is perhaps the most distinguished instance of mental heredity on record. It began in 1550 and lasted through eight generations to the year 1800. During a period of nearly two hundred years this family produced a multitude of artists of the first rank. There is no other instance of such remarkable talents being combined in a single family. Its head was Weit Bach, a baker of Presburg, who used to seek relaxation from labor in music and song. He had two sons, who commenced that unbroken line of musicians, of the same name, that for nearly two centuries overran Thuringia, Saxony, and Franconia. They were all organists or church singers: When they had become too numerous to live near each other, and the members of the family were scattered abroad, they resolved to meet once a year, on a stated day, with a view to keep up a sort of patriarchal bond of union. This custom was kept up until nearly the middle of the eighteenth century, and very often there gathered more than one hundred persons bearing the name of Bach—men, women, and children. In this family are mentioned twenty-nine eminent musicians. Fétis, in his "Dictionnaire Biographique," mentions fifty-seven members of this family." As further evidence of mental heredity note the families of Beethoven, Mendelssohn, Mozart, among musicians; among scientists, the families of Aristotle, Bacon, Bentham, Darwin, James Watt; among *men of letters*, the families of Addison, Thomas Arnold, Hallam, Macaulay, Seneca, Madame de Staël.

These illustrations are sufficient to prove mental heredity. If there is a law of heredity the evidence for its operation in the sphere of mind is as clear, as positive, and as complete as the evidence of its operation in the sphere of matter.

III. Are there not exceptions to the law of heredity so numerous and of such a character as to vitiate the law? There are exceptions to this law, but they are neither so numerous nor so inexplicable as is sometimes supposed.

Spontaneity has undoubted play, but it is a great question whether a more careful induction of facts would not show what are called exceptions, or spontaneous variations from the primitive type, to be only suppressed or exaggerated heredity. If not due to these causes then are they not due to pre-natal influence? Beautiful children are sometimes born of ugly parents. There are numerous cases of monstrosities on record, as in the case of Edward Lambert and his sons and grandchildren, which I have mentioned before, where the conflict between the tendency to return to the original type, and the tendency toward reproduction is plainly discernible. The following apparent exceptions to this law have been noted. Pericles had two imbeciles and one maniac in his family. Thucydides was the father of a fool and a blockhead. The great Germanicus was the father of Caligula, Vespasian of Domitian, and Marcus Aurelius of Commodus. And says Lucas, "In modern history it is enough to mention the sons of Henry IV., Louis XIV., of Cromwell, Peter the Great, La Fontaine, Goethe and Napoleon." And who has not asked himself what law of heredity can account for Martin Luther, for John Calvin, for Florence Nightingale, for Shakespeare, for Lord Byron, and for Wordsworth?

In the first place it must be remembered that sons are quite as likely, and, in the general judgment of investigators, more likely to resemble their mothers than their fathers. The mothers of great men are usually unknown; and what genius and power among women has been suppressed, or compelled to turn toward dish-washing and scrubbing history does not tell. We know that the son of Marcus Aurelius, Commodus, was like his mother; that Caligula was not like his father but the very picture of his detestable mother, Agrippina; we know that Napoleon II. was as much like the weak Maria Louisa, as Napoleon himself was like the magnificently strong and brave Letizia Ramolino; we know that Goethe was like his mother, and Lord Byron, if he did not get his genius from his mother, possessed her temper and uncontrollable passion. Great men are more apt than others to marry mediocre, or common, or inferior wives. They are attracted by what they do not find in themselves. As a consequence their children are inferior. Their greatness has been diluted. Their children are not like themselves alone or their families, but like their wives and the families from which they came. Still, eliminating that which is usually ascribed to genius, and comparing characters, and habits, and ways of doing things, children invariably resemble their parents more than they differ from them.

The gift of genius is absolutely without explanation. Galton's attempt to account for it by heredity is futile. After every allowance has been made, after every theory has been tested, there are certain lonely, great souls that rise above humanity as Alps and Andes above the earth, and they are all like Melchisedec, without father and without mother. The genesis of genius is as mysterious as the genesis of life.

Concerning all exceptions to the law of heredity there are two theories: (1) That of Lucas, who "holds that the biologic fact of generation is governed by two laws, one of spontaneity, the other of heredity." (2) That of Ribot, who maintains "that the causes of spontaneity are only accidental; that variation is never more than a chance, the result of the fortuitous play and concurrence of natural laws; but that it is not the effect of any distinct and special law. On this theory there would be one law of heredity with its exceptions, not two laws, one of heredity, the other of spontaneity." (Ribot, p. 199.)

Brooks, in his more recent work, the latest and one of the most valuable on this subject, seems to incline more to the former view, and yet to contradict it. He says (p. 314), "We find in all, except the lowest organisms, that heredity is brought about by two dissimilar, reproductive elements, and we find that each organism is the resultant of two factors, heredity and variation."

Again, "The view that each individual inherits all the characteristics of the species, and that the distinctive characteristics of the male are arrested in certain ones, while the distinctive features of the female remain latent in others, furnishes a simple and adequate explanation of facts." (P. 316.)

Again (p. 321), "The fact that variation is due to the male influence, and that the action upon the male parent of unnatural or changed conditions, results in the variability of the child, is well shown by crossing the hybred with the pure species; for when the male hybred is crossed with a pure female the children are much more variable than those born of a hybred mother by a pure father."

In other words, Brooks makes the cause of variation the predominant influence of the male parent.

With the real object of our inquiry the explanation of these phenomena is of secondary importance. The relation of heredity to the will, to character, to religion is the same, whatever the theory of the cause of the exceptions or the origin of the law. The existence of the law can only be proved by an induction of facts. All *a priori* reasoning is wasted breath in seeking to determine the existence of this law. It rests on the immovable foundation of facts—facts which can be seen and verified by all. It has exceptions, no doubt; but exceptions do not disprove laws.

IV. Which is the stronger force in determining character, heredity or environment?

The answer to this question must come from specialists in sociology rather than biology or psychology. If I understand Ribot, he adopts the views of Burdach which he quotes, viz:

"Heredity has actually more power over our mental constitution and our character than all external influences, physical or moral." (P. 346.) He says again, " We restrict education, as we think, within its just limits when we say that its power is never absolute, and that it exerts no efficacious action except upon mediocre natures." (P. 349). Again he says, "We must ever bear in mind these facts, and be careful not to believe that education explains everything. We would not, however, in the least detract from its importance. Education after centuries of effort has made us what we are. Moreover, to bear sway over average minds is in itself a grand part to play; for though it is the higher minds that act, it is mediocre minds that react, and history teaches that the progress of humanity is as much the result of the reactions which communicate motion, as of the actions which first determine it." (P. 351.)

The idea of Ribot plainly is that the thousands of years of peculiar environment of separate races has not made very radical changes in the nature of those races; that Carlyle was right when he said, " Civilization is only a covering underneath which the savage nature of man continually burns with an infernal fire."

Mr. R. L. Dugdale, in the "Jukes," says that where there is no organic defect, as in insanity or idiocy, environment is the stronger force; but where there is such a defect, then heredity is the dominating force; and Prof. Bixby, in the *Popular Science Monthly*, shows with great clearness the influence of environment on the religious life of man, proving that it is more potent than heredity. This is a phase of the subject that any observing person can study. The testimony of all workers for reform, among the vicious and outcast, is in accord on this point. Improvement in environment means the clarification of the stream of heritage. Bad birth and bad blood do not necessarily doom a child to a certain hell. They make the chances almost infinite that unless the conditions of his life are changed deterioration will continue. But they do not determine the destiny. Usually improved environment results in a corresponding elevation of character and life. Mr. Dugdale declares that the evils of illegitimacy in the individual may be largely counteracted by education and healthful association. The experience of such organizations as the Childrens' Aid Society, which seeks to save children by elevating their environment, is all favorable to the theory that environment, when given a fair chance, will modify and gradually change heredity. It certainly is the strongest force moving on the individual character. Howsoever vile a child's ancestry may be, if he is placed where every thing that he sees and hears becomes a motive to purity and honor, the chances are that habits of virtue and righteousness will be formed which will develop and increase the good, and repress and destroy the evil. If this were not true there would be no basis either for religion or reform. Education would be a mockery. The good would reproduce the good, and the tainted, the tainted; and the vile, the vile ; until at last, as the tendency of corruption is to befoul all that it touches, and as the purest are far from perfect, the end would be an everlasting hell of pollution and infamy, unless annihilation mercifully intervened.

In my opinion all that makes life worth living for half the world, and all that saves from the abyss of pessimism those who are possessed with the enthusiasm for humanity, is the simple fact that heredity may be modified by environment; that there is always something in a human being which was not destroyed by the first or any subsequent fall, which can respond to education and religion, and which may be expected to respond to them when given a fair chance.

The importance of getting as near to heredity as possible with good influence and right training is evident. The nearer to the moment of birth purity, healthfulness, religion can get, the better their chance of becoming predominant in determining the character of that individual.

Two questions arise when the universality of heredity is asserted which must now receive attention.

I. Has heredity a side of blessing as well as of cursing ? Is there a law of spiritual as well as physical heredity ? Is a tendency to virtue as surely transmitted as a tendency toward vice? It may seem strange that this question should arise, but I find Elam, who writes in the interests of religion, saying:

" Health, or disease, or organic peculiarities may not reappear, inherent intellectual or moral qualities may not always be transmitted, but an acquired and habitual vice will rarely fail to leave its trace upon one or more of the offspring, either in its original form or one closely allied. . . . The habit of the parent becomes the all but irresistible instinct of the child; the voluntarily adopted and cherished vice of the father or mother, becomes the overpowering impulse of the son or daughter." ("Physicians' Problems," p. 5.)

Presumptively the law of heredity has the same force whether it concerns the reproduction of tendencies toward evil or toward good. But consider other facts. A process of decay is always more rapid than a process of growth. An apple rots quicker than it ripens. It is easier to roll down hill then to climb up hill. The spread of poison in the blood is quicker than its possible eradication from the system. There is nothing to indicate that a perfectly pure and virtuous man would not as surely transmit a tendency toward purity and virtue as toward their opposites. But none are perfect. All are more or less stained and corrupted. A nature that is transmitted is transmitted with the taints, the specks of decay, which have existed in the parents, or been brought from ancestors. Those tendencies will work faster than the tendencies upward. A tainted nature, such as science as well as religion assures us that all have, will reproduce itself. The best are only struggling upward. Zwinglius had been an adulterer before he was a reformer. The President of a great university said he would give years of his life if he could forget the scenes and thoughts which came to him from his youth. There are forces inside of us tending downward and forces outside pulling down. Therefore the operation of this law in a redemptive process must be slower than its operation in a deteriorating process. The tendency will always be to reproduce the nature as it is, and an imperfect nature is always in extreme peril, even though there may be tendencies in it toward the higher life. Furthermore, the time of reproduction in the human species is largely in the period of life when the passions are hot, and before the influences of religion have had time to complete their work. A man may have been a drunkard from his twentieth to his twenty-fifth year. Then, reforming, he lives an exemplary life. At thirty he marries, and soon becomes a father—a father with a pure will, but with a physical nature from which the stains of alcohol are not yet worn. His child may be born with a thirst for stimulants. Still the thirst is weaker than it would have been if he had been born five years before. The tendency downward is not so strong, and the tendency upward is stronger. The child, however, partakes of the double nature of the parent—a struggling moral nature, and a tainted physical nature. Or, it may be that new circumstances have given an opportunity for latent germs of evil tendency, which started first in his grandfather, to manifest themselves in him. Beyond a doubt such experiences are common in the physical organism—why should they not also be manifest in a tainted moral nature pointing toward some long-forgotten vice?

I conclude, then, that the sweep of this law is the same in the spiritual as in the physical sphere. That which is born of spirit is spirit; that which is born of flesh is flesh. That which is born of spirit tainted by the corruptions of the flesh is still tainted, although the individual will may have commenced the process of self-mastery. Processes of decay are surer and quicker than processes of growth. Therefore it will take longer for spiritual heredity to assert itself than for sensual heredity. This, however, does not vitiate the fact that the redemption of the world is to be sought not only by the preaching of the Word, but by the bringing into life, in Christian homes, of a higher spiritual stock, who, in turn, shall produce their own kind, freer from the bondage of the body than their parents were. Heredity is to be a factor in the world's regeneration as it has been in its degeneration. But it is fettered now. It has to produce imperfect men, for there are no others.

Finally. Here we are again face to face with that old problem of free-will. Whichever way we turn in the study of heredity, we meet that familiar figure. The following is a fact often seen, viz.: A stream of heritage has been going downward. Suddenly it changes its course and attempts the apparently impossible feat of going up hill. It changes its quality. It becomes better. Now, there is no force in a tendency to decay to stop itself and become a tendency toward health. It is a law of morals as of physics that a falling body can be arrested only by some object outside of itself. If a stream of heritage changes its course it must always be for a cause. That cause we seek, and find, in the fact that for sufficient motives a man has decided to change his life, and live differently from what he has lived, or from the manner in which his ancestors lived. That change is the result, so far as it can be studied, of a single decisive choice. The man chose to live differently, did live differently, and a difference in the heritage, which had been flowing from the past, is observed when the stream gets beyond him. The heredity is all against the change. The choice is not because of heredity; it is in spite of it. Now, I hold that such facts are just as evident, if not quite so common, as the fact that the Bourbon family are distinguished by their aquiline nose, or the Herschel family by their aptitude for astronomy. This fact, to say the least, is an exception to the law of heredity, as distinctly such as the appearance of a genius. It cannot be accounted for by heredity, whatever else may be said about it. What shall we say? The man in whom the phenomenon appeared can only say, I felt I was wrong, and I decided to live differently. Can any one say more than that? Are not both heredity and the power of choice ultimate facts? When Mr. Maudsley, as he does with great power in his latest work on "Body and Will," argues that what we call will is only a deduction from successive states of the mind, and that the consciousness of personality is a composite of present experiences and past remembrances, it is impossible to disprove his positions or to believe what he says. Those who teach that men are what heredity makes them, enact laws and execute laws which imply the power of contrary choice, thus practically denying what they theoretically affirm.

Personally, I feel that there must be somewhere a bridge over the gulf between these two mountains. It seems to me that one of the most practical blessings which could come to those who believe in the reality of freedom, would be to have shown them a safe and sure way over which they could lead their friends who do not recognize, as they do, the voice of consciousness uttering its "everlasting yea."